DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AIR QUALITY OPERATING PERMIT

Permit No. AQ0316TVP02
Application No. A000316

Issue Date: December 4, 2007
Expiration Date: December 3, 2012

The Department of Environmental Conservation, under the authority of AS 46.14 and 18 AAC 50, issues an operating permit to the Permittee, **University of Alaska**, for the operation of the **Fairbanks Campus Power Plant**.

This permit satisfies the obligation of the owner and operator to obtain an operating permit as set out in AS 46.14.130(b).

As set out in AS 46.14.120(c), the Permittee shall comply with the terms and conditions of this operating permit.

Relevant facility-specific terms and conditions of Air Quality Control Permit-to-Operate No. AQ316TVP01, Revision 3 and Air Quality Control Minor Permit No. AQ0316MSS02 have been incorporated into this Operating Permit.

Upon effective date of this permit, Operating Permit No. AQ0316TVP01, Revision 3 expires.

This Operating Permit becomes effective January 3, 2008.

John F. Kuterbach, Manager
Air Permits Program

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List of Abbreviations Used in this Permit

AAC ..... Alaska Administrative Code
ADEC ..... Alaska Department of Environmental Conservation
AS ..... Alaska Statutes
ASTM ..... American Society for Testing and Materials
BACT ..... Best Available Control Technology
BHp ..... Boiler Horsepower
C.F.R. ..... Code of Federal Regulations
The Act ..... Clean Air Act
CO ..... Carbon Monoxide
dscf ..... Dry standard cubic foot
EPA ..... US Environmental Protection Agency
EU ..... Emission Unit
gr./dscf ..... grain per dry standard cubic foot (1 pound = 7000 grains)
GPH ..... gallons per hour
HAPs ..... Hazardous Air Pollutants [*HAPs* as defined in AS 46.14.990(14)]
ID ..... Emission Unit Identification Number
kPa ..... kiloPascals
LAER ..... Lowest Achievable Emission Rate
MACT ..... Maximum Achievable Control Technology as defined in 40 C.F.R. 63.
MR&R ..... Monitoring, Recordkeeping, and Reporting
NESHAPs ..... Federal National Emission Standards for Hazardous Air Pollutants [*NESHAPs* as contained in 40 C.F.R. 61 and 63]
NO_X ..... Nitrogen Oxides
NSPS ..... Federal New Source Performance Standards [*NSPS* as contained in 40 C.F.R. 60]
O & M ..... Operation and Maintenance
O_2 ..... Oxygen
PAL ..... Plantwide Applicability Limitation
PM-10 ..... Particulate Matter less than or equal to a nominal ten microns in diameter
ppm ..... Parts per million
ppmv, ppmvd ..... Parts per million by volume on a dry basis
psia ..... Pounds per Square Inch (absolute)
PSD ..... Prevention of Significant Deterioration
PTE ..... Potential to Emit
SIC ..... Standard Industrial Classification
SO_2 ..... Sulfur dioxide
TPH ..... Tons per hour
TPY ..... Tons per year
VE ..... Visible Emissions
VOC ..... volatile organic compound [*VOC* as defined in 40 C.F.R. 51.100(s)]
VOL ..... volatile organic liquid [*VOL* as defined in 40 C.F.R. 60.111b, Subpart Kb]
vol% ..... volume percent
wt% ..... weight percent

Section 1. Stationary Source Information

Identification, Names and Addresses

Permittee:	**University of Alaska** PO Box 75920 Fairbanks AK 99775
Stationary Source Name:	**Fairbanks Campus Power Plant**
Location:	64° 51' North; 147° 51' West
Physical Address:	802 Alumni Drive Fairbanks AK 99775
Owner:	University of Alaska PO Box 75920 Fairbanks AK 99775
Operator:	University of Alaska Utilities Operation PO Box 75920 Fairbanks AK 99775
Permittee's Responsible Official	Charles B. Ward P.E.
Designated Agent:	Charles B. Ward P.E University of Alaska PO Box 757420 Fairbanks AK 99775
Stationary Source and Building Contact:	Charles B. Ward P.E University of Alaska PO Box 757420 Fairbanks AK 99775 (907) 474-7351 fncbw@uaf.edu
Fee Contact:	Accounts Payable, Administrative Service Center University of Alaska PO Box 75920 Fairbanks AK 99775
Permit Contact:	Charles B. Ward, P.E., Director, Division of Utilities

Stationary Source Process Description

SIC Code of the Stationary Source: 8221 Colleges, University and Professional Schools

18 AAC 50.326(a), 10/1/04]
[40 C.F.R. 71.5(c)(1 & 2), 7/1/03]

Section 2. Emission Unit Inventory and Description

Emission units listed in Table A have specific monitoring, record keeping, or reporting conditions in this permit. Emission unit descriptions and ratings are given for identification purposes only.

Table A - Emission Units Inventory

EU ID	Location	EU Description (Model)	Rating/size	Installation Date
1	Power Plant	Coal-Fired Boiler #1 (Erie City)	140.4 MMBtu/hr	1962
2	Power Plant	Coal-Fired Boiler #2 (Erie City)	140.4 MMBtu/hr	1962
3	Power Plant	Dual fuel fired Boiler #3 (gas, liquid, or coal water slurry) (Zurn)	180.9 MMBtu/hr	1970
4	Power Plant	Dual fuel fired Boiler #4 (gas, liquid, or coal water slurry) (Zurn)	180.9 MMBtu/hr	1987
5A	AHRC	Oil-Fired Boiler (Scotch #S2-Ps-50-150)	2.09 MMBtu/hr	2003
6	AHRC	Old Backup Diesel Generator #1 (Cummins)	125kW	1968
7	AHRC	Old Backup Diesel Generator #2 (Cummins)	125 kW	1968
8	Power Plant	New Backup Diesel Generator (liquid or coal water slurry) (Morse Colt-Pielstick PC2.6)	9.6 MW 13,266 hp	1999
9A	BIRD	Incinerator (Diesel) (Therm-Tec G-20-P-.5)	533 lb/hr	April 2006

Table Notes:
AHRC Arctic Health Research Center
BIRD Biological and Research Building
The incinerator EU ID 9A is primarily used as a crematory for pathological waste

[18 AAC 50.326(a), 10/1/04]
[40 C.F.R. 71.5(c)(3), 7/1/03]

Section 3. State Requirements

Visible Emissions Standards

1. **Industrial Process and Fuel-Burning Equipment Visible Emissions.** The Permittee shall comply with the following:

   a. Do not cause or allow visible emissions, excluding condensed water vapor, emitted from EU IDs 3-9A listed in Table A to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.

[18 AAC 50.326(j), 10/1/04; and 18 AAC 50.055(a)(1), 5/3/02]
[40 C.F.R. 71.6(a)(1), 7/1/03]

1.2 For EU IDs 3 – 8, monitor, record, and report in accordance with conditions 2 through 4.

[18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3), 7/1/03]

Visible Emissions Monitoring, Recordkeeping and Reporting

Liquid Fuel-fired Sources (EU IDs 3-9A)

2. **Visible Emissions Monitoring.** **Visible Emissions Monitoring.** The Permittee shall monitor the exhaust of EU IDs 3, 4 (when not subject to condition 2.1), 5A, 6, 7, 8, and 9A for visible emissions using either the Method 9 Plan under condition 2.2 or the Smoke/No-Smoke Plan under condition 2.3. The Permittee may change the visible-emissions plan for an emission unit at any time unless prohibited from doing so by Condition 2.4. The Permittee may continue visible emission monitoring according to the prevailing schedule established at the time this renewed permit is issued

[18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3)(i), 7/1/03]

2.1 **Continuous Opacity Monitoring.** The Permittee shall monitor the opacity for EU ID 4 by the use of a continuous opacity monitoring system (COMS) if this unit burns oil that contains more than 0.3 percent sulfur, or liquid or gaseous fuels with potential SO_2 emission rate of more than 0.32 lb/MMBtu heat input.

   a. The following procedure applies for monitoring visible emissions when using a COMS:

[18 AAC 50.326(j) and 18 AAC 50.346(c) 10/1/04]
[Standard Operating Permit Condition XIII – Coal Fired Boilers, 4/1/02]
[40 C.F.R. 71.6(a)(3)(i), 7/1/03]

   (i) The COMS must meet the performance specifications in 40 C.F.R. 60, Appendix B, Performance Specification 1, adopted by reference in 18 AAC 50.040(a);

(ii) Operate and maintain the COMS in accordance with the manufacturer's written requirements and recommendations;

(iii) Except during COMS breakdowns, repairs, calibration checks, and zero and upscale adjustments, complete one cycle of sampling and analyzing for each successive 10-second period of source operation; from this data, calculate and record the average opacity for each successive one-minute period;

(iv) At least once daily, conduct a zero and upscale check in accordance with 40 C.F.R. 60.13(d), adopted by reference in 18 AAC 50.040(a), and a written procedure; adjust whenever the zero or upscale drift exceeds four percent opacity in a 24-hour period;

b. Conduct performance audits as follows:

(i) For a COMS that was new, relocated, replaced, or substantially refurbished on or after April 9, 2001, perform an audit that includes the following elements as described in the Department's *Performance Audits for COMS*, adopted by reference in 18 AAC 50.030, at least once in each 12 months:

(A) optical alignment;

(B) zero and upscale response assessment;

(C) zero compensation assessment;

(D) calibration error check; and

(E) zero alignment assessment;

(ii) For a COMS that was new, relocated, replaced, or substantially refurbished before April 9, 2001, perform the same audits required under condition 27.3a, except that conditions 2.1b(i)(A) through 2.1b(i)(E) must be performed at least quarterly; this frequency may be reduced if

(A) the Permittee demonstrates, by applying measurable criteria to the results of quarterly audits, that quarterly audits are not necessary; and

(B) the Department gives written approval for the reduction in frequency.

c. If the COMS is out of service for more than 24 hours, or the COMS failed the performance audit, then the Permittee shall use the visible emissions monitoring described in condition 2.2 or 2.3 immediately. If the effected boiler is not operating, no monitoring is required.

d. the following VE recordkeeping and reporting requirements are applicable when a COMS is required:

[18 AAC 50.326(j) & 50.346(c), 10/1/04]

[40 C.F.R. 71.6(a)(3)(ii) & (iii), 7/1/03]

(i) Maintain records of all calculated one-minute average opacity values for COMS and records of the COMS performance audits required under condition 2.1b, according to the requirements of condition 71.

(ii) If any of the COMS is malfunctioning or non-operable for three or more consecutive days, the Permittee shall notify the Department by telephone, in writing, or via email to dec.aq.airreports@alaska.gov on the fourth day, indicating the cause of failure and anticipated time required to repair or replace the instrument.

(iii) Report a violation of the emission standard in condition a**Error! Reference source not found.** by filing an Excess Emission Notification Form under condition 75 if visible emissions, excluding condensed water vapor, emitted from EU ID 4 reduce visibility through the exhaust effluent by more than 20 percent for a total of more than three minutes in any one hour[1];

[18 AAC 50.040(e) and 50.326(j), 10/1/04; and 18 AAC 50.055(a)(1), 1/18/97]
[40 C.F.R. 52.70 and 71.6(a)(1), 7/1/03]

(iv) Report a violation of the emission standard in condition aa by filing an Excess Emission Notification Form under condition 75 if visible emissions, excluding condensed water vapor, emitted from EU ID 4 reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes[2].

[18 AAC 50.326(j), 10/1/04; and 18 AAC 50.055(a)(1), 5/3/02]
[40 C.F.R. 71.6(a)(1), 7/1/03]

2.2 **Method 9 Plan.** For all 18-minute observations in this plan, observe exhaust, following 40 C.F.R. 60, Appendix A-4, Method 9, adopted by reference in 18 AAC 50.040(a), for 18 minutes to obtain 72 consecutive 15-second opacity observations.

a. First Method 9 Observation. Observe exhaust for 18 minutes within 14 calendar days after changing from the Smoke/No-Smoke Plan of condition 2.3, whichever is later.

b. Monthly Method 9 Observations. Perform 18-minute observations at least once in each calendar month that a source operates.

c. Semiannual Method 9 Observations. After observing emissions for three consecutive operating months under condition 2.2b, unless a six-minute average is greater than 15 percent and one or more observations are greater than 20 percent, observe emissions at least semiannually for 18 minutes.

[1] For purposes of this permit, the "more than three minutes in any one hour" criterion in this condition and conditions 22.1 and 22.2 will no longer be effective when the Air Quality Control (18 AAC 50) regulation package effective May 3, 2002 is adopted by the U.S. EPA.

[2] The six-minute average standard is enforceable only by the State until 18 AAC 50.055(a)(1), dated May 3, 2002, is approved by EPA into the SIP at which time this standard becomes federally enforceable.

Semiannual observations must be taken between four and seven months after the previous set of observations.

d. Annual Method 9 Observations. After at least two semiannual 18-minute observations, unless a six-minute average is greater than 15 percent and one or more individual observations are greater than 20 percent, observe emissions at least annually.

Annual observations must be taken between 10 and 13 months after the previous observations and must include at least three 18-minute sets of observations.

e. Increased Method 9 Frequency. If a six-minute average opacity is observed during the most recent set of observations to be greater than 15 percent and one or more observations are greater than 20 percent, then increase or maintain the 18-minute observation frequency for that source to at least monthly intervals, until the criteria in condition 2.2c for semiannual monitoring are met.

2.3 **Smoke/No Smoke Plan.** Observe the exhaust for the presence or absence of visible emissions, excluding condensed water vapor.

a. Initial Monitoring Frequency. Observe the exhaust during each calendar day that a source operates.

b. Reduced Monitoring Frequency. After the source has been observed on 30 consecutive operating days, if the source operated without visible smoke in the exhaust for those 30 days, then observe emissions at least once in every calendar month that a source operates.

c. Smoke Observed. If smoke is observed, either begin the Method 9 Plan of condition 2.1 or perform the corrective action required under condition 2.4.

2.4 **Corrective Actions Based on Smoke/No Smoke Observations.** If visible emissions are present in the exhaust during an observation performed under the Smoke/No Smoke Plan of condition 2.3, then the Permittee shall either follow the Method 9 plan of condition 2.1 or

a. initiate actions to eliminate smoke from the source within 24 hours of the observation;

b. keep a written record of the starting date, the completion date, and a description of the actions taken to reduce smoke; and

c. after completing the actions required under condition 2.4a,

(i) take Smoke/No Smoke observations in accordance with condition 2.3

(A) at least once per day for the next seven operating days and until the initial 30 day observation period is completed; and

(B) continue as described in condition 2.3b; or

(ii) if the actions taken under condition 2.4a do not eliminate the smoke, or if subsequent smoke is observed under the schedule of condition 2.4c(i)(A), then observe the exhaust using the Method 9 Plan unless the Department gives written approval to resume observations under the Smoke/No Smoke Plan; after observing smoke and making observations under the Method 9 Plan, the Permittee may at any time take corrective action that eliminates smoke and restart the Smoke/No Smoke Plan under condition 2.3a.

3. **Visible Emissions Recordkeeping.** The Permittee shall keep records as follows:

[18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3)(ii), 7/1/03]

3.1 If using the Method 9 Plan of condition 2.1

a. the observer shall record

(i) the name of the stationary source, emission unit and location, stationary source type, observer's name and affiliation, and the date on the Visible Emissions Field Data Sheet in Section 13;

(ii) the time, estimated distance to the emissions location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), plume background, and operating rate (load or fuel consumption rate) on the sheet at the time opacity observations are initiated and completed;

(iii) the presence or absence of an attached or detached plume and the approximate distance from the emissions outlet to the point in the plume at which the observations are made;

(iv) opacity observations to the nearest five percent at 15-second intervals on the Visible Emissions Observation in Section 13, and

(v) the minimum number of observations required by the permit; each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period;

b. to determine the six-minute average opacity, divide the observations recorded on the record sheet into sets of 24 consecutive observations; sets need not be consecutive in time and in no case shall two sets overlap; for each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24; record the average opacity on the sheet;

c. calculate and record the highest 18-consecutive-minute averages observed.

3.2 If using the Smoke/No Smoke Plan of condition 2.3, record the following information in a written log for each observation and submit copies of the recorded information upon request of the Department:

a. the date and time of the observation;

b. from Table A, the ID of the source observed;

c. whether visible emissions are present or absent in the exhaust;

d. a description of the background to the exhaust during the observation;

e. if the source starts operation on the day of the observation, the startup time of the source;

f. name and title of the person making the observation; and

g. operating rate (load or fuel consumption rate).

4. **Visible Emissions Reporting.** The Permittee shall report visible emissions as follows:

[18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3)(iii), 7/1/03]

4.1 include in each stationary source operating report under condition 76

a. which visible-emissions plan of condition 2 was used for each source; if more than one plan was used, give the time periods covered by each plan;

b. for each source under the Method 9 Plan,

(i) copies of the observation results (i.e. opacity observations) for each source that used the Method 9 Plan, except for the observations the Permittee has already supplied to the Department; and

(ii) a summary to include:

(A) number of days observations were made;

(B) highest six-minute average observed; and

(C) dates when one or more observed six-minute averages were greater than 20 percent;

c. for each source under the Smoke/No Smoke Plan, the number of days that Smoke/No Smoke observations were made and which days, if any, that smoke was observed; and

d. a summary of any monitoring or record keeping required under conditions 2 and 3 that was not done;

4.2 report under condition 75 :

a. the results of Method 9 observations that exceed an average 20 percent for any six-minute period; and

b. if any monitoring under condition 2 was not performed when required, report within three days of the date the monitoring was required.

Particulate Matter Emissions Standards

5. **Industrial Process and Fuel-Burning Equipment Particulate Matter.** In accordance with 18 AAC 50.055(b)(1), the Permittee shall not cause or allow particulate matter emitted from EU IDs 3-8 listed in Table A to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.326(j), 10/1/04; and 18 AAC 50.055(b)(1), 1/18/97]
[40 C.F.R. 71.6(a)(1), 7/1/03]

5.1 For EU IDs 3, 4, & 5A, monitor, record, and report in accordance with conditions 9, 11 and 12.

5.2 For EU IDs 6, 7, & 8, monitor, record, and report in accordance with conditions 7 - 8.

5.3 For EU IDs 3 - 8, the Permittee must annually certify compliance under condition 77 with the particulate matter standard.

[18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3), 7/1/03]

6. **Incinerator Particulate Matter Emissions.** Particulate matter emissions from EU ID 9A may not exceed the particulate matter standard, as listed in Table B:

[18 AAC 50.326(j), 10/1/04; and 18 AAC 50.050(b), 1/18/97]
[40 C.F.R. 71.6(a)(1), 7/1/03]

Table B - Particulate Matter Standards for Incinerators

Incinerator Rated Capacity	Particulate Matter Standard
Less than 1000 lbs./hr	No Limits

PM Monitoring, Recordkeeping and Reporting

Liquid-Fired Sources (EU IDs 6-8)

7. **Particulate Matter Monitoring for Diesel Engines.** The Permittee shall conduct source tests on diesel engines 6, 7, and 8 to determine the concentration of particulate matter (PM) in the exhaust of a source in accordance with this condition.

[18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3)(i), 7/1/03]

7.1 Within six months of exceeding the criteria of conditions 7.2a or 7.2b, either

a. conduct a PM source test according to requirements set out in Section 8; or

b. make repairs so that emissions no longer exceed the criteria of condition 7.2; to show that emissions are below those criteria, observe emissions as described in condition 2.1 under load conditions comparable to those when the criteria were exceeded.

7.2 Conduct the test according to condition 7.1 if

a. 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity greater than 20 percent; or

b. for a source with an exhaust stack diameter that is less than 18 inches, 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity that is greater than 15 percent and not more than 20 percent, unless the Department has waived this requirement in writing.

7.3 During each one-hour PM source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the average opacity that was measured during each one-hour test run. Submit a copy of these observations with the source test report.

7.4 The automatic PM source test requirement in conditions 7.1 and 7.2 is waived for an emissions unit if a PM source test on that unit has shown compliance with the PM standard during this permit term.

8. **Particulate Matter Reporting for Diesel Engines.** The Permittee shall report for EU IDs 6, 7, & 8 as follows:

[18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3)(iii), 7/1/03]

8.1 report under condition 75

a. the results of any PM source test that exceeds the PM emissions limit; or

b. if one of the criteria of condition 7.2 was exceeded and the Permittee did not comply with either condition 7.1a or 7.1b, this must be reported by the day following the day compliance with condition 7.1 was required;

8.2 report observations in excess of the threshold of condition 7.2b within 30 days of the end of the month in which the observations occur;

8.3 in each stationary source operating report under condition 76, include

a. the dates, EU IDs 6, 7, & 8, and results when an observed 18-minute average was greater than an applicable threshold in condition 7.2;

b. a summary of the results of any PM testing under condition 7; and

c. copies of any visible emissions observation results (opacity observations) greater than the thresholds of condition 7.2, if they were not already submitted.

For Liquid-Fired Boilers and Heaters

9. **Particulate Matter Monitoring.** The Permittee shall conduct source tests on EU IDs 3, 4, & 5A to determine the concentration of PM in the exhaust as follows:

[18 AAC 50.326(j)(4), 10/1/04]
[40 C.F.R. 71.6(a)(3)(i) & (c)(6), 7/1/03]

9.1 Conduct a PM source test according to the requirements set out in Section 8 no later than 90 calendar days after any time corrective maintenance fails to eliminate visible emissions greater than the 20 percent opacity threshold for two or more 18-minute observations in a consecutive six-month period.

9.2 During each one-hour PM source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the average opacity that was measured during each one-hour test run.

9.3 The PM source test requirement in condition 9 is waived for an emission unit if:

a. a PM source test on that unit has shown compliance with the PM standard during this permit term, or

b. if a follow-up visible emission observation conducted using Method-9 during the 90 days shows that the excess visible emissions described in condition 2.2e no longer occur.

10. **Coal Water Slurry.** If firing or co-firing EU IDs 3, 4, or 8 with a coal water slurry, conduct source tests on the unit(s) operating with a coal water slurry to determine the particulate matter (PM-10) emissions.

[Minor Permit AQ0316MSS02]

10.1 Conduct all tests and report the results in accordance with the requirements described in Operating Permit No. 316TVP02 for EU ID 8, note whether the unit was operating with or without NO_X controls.

10.2 Conduct all tests at the maximum anticipated coal water slurry feed rate.

10.3 Commence the tests within 90 days of starting operation with the coal water slurry.

[18 AAC 50.326(j)(4), 12/03/05]

10.4 Submit a revised particulate matter grain loading demonstration and Prevention of Significant Deterioration (PSD) PM-10 permit applicability determination with the source test report.

11. **Particulate Matter Recordkeeping.** The Permittee shall keep records of the results of any PM testing and visible emissions observations for EU IDs 3, 4, or 5A conducted under conditions 9 and 9.2.

[18 AAC 50.326(j)(4), 10/1/04]
[40 C.F.R. 71.6(a)(3)(ii) & (c)(6), 7/1/03]

12. **Particulate Matter Reporting.** The Permittee shall report for EU IDs 3, 4, & 5A as follows:

[18 AAC 50.326(j)(4), 10/1/04]
[40 C.F.R. 71.6(a)(3)(iii) & (c)(6), 7/1/03]

12.1 In each stationary source operating report required by condition 76, include

a. the dates, EU IDs 3, 4, & 5A, and results when an 18-minute opacity observation was greater than the applicable threshold criterion in 2.2e.

b. a summary of the results of any PM testing and visible emissions observations conducted under conditions 9 and 9.2.

12.2 Report as excess emissions, in accordance with condition 75, any time the results of a source test for PM exceeds the PM emission limit stated in condition 5.

Sulfur Compound Emission Standards Requirements

13. **Sulfur Compound Emissions.** In accordance with 18 AAC 50.055(c), the Permittee shall not cause or allow sulfur compound emissions, expressed as SO_2, from 1 - 8 to exceed 500 ppm averaged over three hours.

[18 AAC & 50.326(j), 10/1/04; and 18 AAC 50.055(c), 1/18/97]
[40 C.F.R. 71.6(a)(1), 7/1/03]

For Diesel Fuel, EU IDs 3, 4, 5A, 6, 7, & 8

13.1 The Permittee shall do one of the following for each shipment of fuel:

a. If the fuel grade requires a sulfur content less than 0.5 percent by weight, keep receipts that specify fuel grade and amount; or

b. If the fuel grade does not require a sulfur content less than 0.5 percent by weight, keep receipts that specify fuel grade and amount and

(i) test the fuel for sulfur content; or

(ii) obtain test results showing the sulfur content of the fuel from the supplier or refinery; the test results must include a statement signed by the supplier or refinery of what fuel they represent.

13.2 Fuel testing under condition 13.1 must follow an appropriate method listed in 18 AAC 50.035 or another method approved in writing by the Department.

13.3 If a load of fuel contains greater than 0.75 percent sulfur by weight, the Permittee shall calculate SO_2 emissions in ppm using either Section 14 or Method 19 of 40 C.F.R. 60, Appendix A-7, adopted by reference in 18 AAC 50.040(a).

13.4 The Permittee shall report as follows:

a. If SO_2 emissions calculated under condition 13.3 exceed 500 ppm, the Permittee shall report under condition 75. When reporting under this condition, include the calculation under Section 14

b. The Permittee shall include in the report required by condition 76

(i) a list of the fuel grades received at the stationary source during the reporting period;

(ii) for any grade with a maximum fuel sulfur greater than 0.5 percent sulfur, the fuel sulfur of each shipment; and

(iii) for fuel with a sulfur content greater than 0.75 percent, the calculated SO_2 emissions in ppm.

[18 AAC 50.326(j) & 50.346(c), 12/3/05]
[40 C.F.R. 71.6(a)(3), 7/1/03]

For fuel gas, EU IDs 3 & 4

13.5 Monitoring – The Permittee shall **either**

a. obtain a semiannual statement from the fuel supplier of the fuel gas H_2S concentration in ppm; **or**

b. analyze a representative sample of the fuel semiannually to determine the sulfur content using 40 C.F.R. 60, Appendix A, Method 11.

13.6 Recordkeeping - Keep records of the semiannual statement from the fuel supplier or the sulfur content analysis required under conditions 13.5a or 13.5b.

13.7 Reporting –

a. Report as excess emissions, in accordance with condition 75, whenever the fuel combusted causes sulfur compound emissions to exceed the standard of condition 13.

b. Include copies of the records required by condition 13.6 with the stationary source operating report required by condition 76.

[18 AAC 50.040(j), 12/3/05 and 18 AAC 50.326(j)(4), 10/1/04]
[40 C.F.R. 71.6(a)(3) & (c)(6), 7/1/04]

14. Measure and record the monthly fuel consumption of each fuel (natural gas, diesel or coal water slurry) in EU ID 4 and (diesel or coal water slurry) in EU ID 8 using a totalizing fuel meter accurate to within one percent or using delivery receipts and change in inventory. (Record natural gas, diesel and coal water slurry diesel separately.)

[Minor Permit AQ0316MSS02]

14.1 Obtain a sulfur content certificate from the fuel supplier; if a certificate is not available from the supplier, analyze a representative sample of the fuel to determine the sulfur content using an approved ASTM method such as ASTM D975-84, D3120-92, D4152-90, D2622-91, and ASTM 396-92.

15. No later than the 15th day of each month, calculate the previous month's SO_2 emissions using Equation 1. If more than one type of liquid fuel is used during the month (e.g., diesel and coal-water slurry), use Equation 1 for each fuel type and add the results. Record the sub-total for each fuel type and the total for all fuels.

[Minor Permit AQ0316MSS02]
[18 AAC 50.300(h)(3)(B)(iii), 1/18/97]

Equation 1 $$SO_2 = [(FC_4 + FC_8)\,(\rho)\,(\%S/100)(2)](1/2000)$$

where: SO_2 = SO_2 emissions (ton/month)

FC_4 = Liquid fuel consumption for EU ID 4 (gal/month), recorded under the provisions described in condition 14
FC_8 = Liquid fuel consumption for EU ID 8 (gal/month), recorded under the provisions described in condition 14
ρ = Density of the liquid fuel (lb/gal)
$\%S$ = Most recent sulfur content of the liquid fuel (diesel or coal water slurry), percent by weight, recorded under the provisions described in condition 14
100 = Conversion factor from percent to a fraction
2 = Molecular weight ratio of SO_2 to S
2000 = Conversion factor from lbs to tons

[Minor Permit AQ0316MSS02]

15.1 Record and report in accordance with condition 76 the 12 consecutive monthly total SO_2 emissions in units of tons per year for each of the past 6 months.

[Minor Permit AQ0316MSS02]

15.2 Report in accordance with condition 75 when the 12 consecutive monthly total SO_2 emissions equals or exceeds 40 tons.

[Minor. Permit AQ0316MSS02]

Owner-Requested Limit for Nitrogen Oxides

16. The Permittee shall limit the combined NO_X emissions from EU IDs 4 and 8 to less than 40 tons per year. [Minor Permit AQ0316MSS02]

16.1 Install low NO_X burners on EU IDs 3 and 4 prior to operating with natural gas fuel.

16.2 Measure and record the monthly natural gas consumption of EU ID 4 in million standard cubic feet per month (mmscf/month) by using a totalizing fuel flow meter certified accurate to within ± one percent.

16.3 No later than the 15th day of each month, calculate the previous month's total NO_X emissions as follows:

a. For EU ID 8 liquid fuel operation without NO_X controls, calculate and record the monthly total uncontrolled NO_X emissions using Equation 2.[3] If more than one type of liquid fuel is used during the month (e.g., diesel and coal-water slurry), use Equation 2 for each fuel type and add the results. For coal water slurry, use the emission factor from the source test conducted under condition 19. Record the sub-total for each fuel type and the total for all fuels.

Equation 2 $\mathbf{NO_X = (UFC_8 \times 0.571) \times (1/2000)}$

where: NO_X = Uncontrolled NO_X emissions (tons/month)
UFC_8 = Uncontrolled diesel fuel consumption for EU ID 8 (gal/month), recorded under the provisions described in condition 14

[3] The permittee has installed a selective catalytic reduction (SCR) control system on Emission Unit 8. Therefore, the term "with NOx controls" refers to those periods when the SCR system is operational, and the term "without NOx controls" refers to those periods when the SCR system is not operational.

0.571 = Uncontrolled NO_X emission factor for EU ID 8 (lb/gal) while firing diesel, based on emission factors provided in the February 1, 2002 source test report. If a subsequent source test without NO_X controls is conducted and approved by the Department, the Permittee shall use the emission factor in lb/gal from the subsequent source test upon the approval date of the source test.

2000 = Conversion factor from lbs to tons

b. For EU ID 8 operation with NO_X controls, calculate and record the monthly total controlled NO_X emissions using Equation 3.

Equation 3 $NO_X = (CFC_8 \times 0.057) \times (1/2000)$

where:

NO_X = Controlled NO_X emissions (tons/month)

CFC = Controlled fuel consumption for EU ID 8 (gal/month), recorded under the provisions described in condition 14

0.057 = Controlled NO_X emission factor for EU ID 8 (lb/gal) while firing diesel, based on emission factors provided in the February 1, 2002 source test report, and assuming 90 percent reduction in NO_X emissions. If a subsequent source test is conducted with NO_X controls and approved by the Department, the Permittee shall use the emission factor in lb/gal from the subsequent source test upon the approval date of the source test.

2000 = Conversion factor from lbs to tons

c. For EU ID 4, calculate and record the monthly total NO_X emissions using Equation 4. For coal water slurry, use the emission factor from the source test conducted under condition 19.

Equation 4 $NO_X = [(LCF_4) \times 0.022) + (GFC_4) \times 140)] (1/2000)$

where:

NO_X = NO_X emissions (tons/month)

LFC_4 = Fuel oil consumption for EU ID 4 (gal/month), recorded under the provisions described in condition 14

0.022 = NO_X (fuel oil) combustion emission factor for EU ID 4 (lb/gal), based on emission factor listed in Permit No. 9631-AA001[4])

GFC_4 = Natural gas consumption for EU ID 4 (MMscf/month)

140 = NO_X (natural gas) combustion emission factor for EU ID 4 (lb/mmscf), based on AP-42 Table 1.4-1 for Low NO_X burner technology. If a source test is conducted and approved by the Department, the Permittee shall use the emission factor in lb/mmscf from the source test upon the approval date.

2000 = Conversion factor from lbs to tons

[4] Permit No. 9631-AA001 indicates this is from October 3-5, 1989 source test.

16.4 No later than the 15th day of each month, add the previous monthly NO_X emissions calculated under condition 16.3 to obtain the previous month's NO_X emissions monthly total for EU IDs 4 and 8, combined. Add this monthly total to the total for the previous 11 months for EU IDs 4 and 8, combined, to determine the 12 consecutive month total.

16.5 Record and report as described in condition 76 the 12 consecutive month rolling total fuel consumption and NO_X emissions (tpy) for each 12 month period ending during the reporting period.

16.6 If firing or co-firing EU ID 8 with a coal water slurry, conduct source tests to determine NO_X emissions as indicated in condition 19

16.7 Report as described in condition 75 when the combined 12 consecutive month rolling total NO_X emissions for EU IDs 4 and 8 equals or exceeds 40 tons.

[Minor Permit AQ0316MSS02]

Fuel Limit for Emission Unit ID 4

17. The Permittee shall limit the annual capacity factor to 10% by not exceeding the heat input of 158,468 mmBtu/yr in Boiler ID 4 in any 12 consecutive months.

[18 AAC 50.040(a)(2)(D)),12/30/00]
[Federal Citation: 40 CFR 60.44b(j)(2) & (k) , 7/1/99]
[Minor Permit AQ0316MSS02]

17.1 The Permittee shall record calendar date, daily hours of operation, and hourly steam load.

[18 AAC 50.040(a)(2)(D)),12/30/00]
[Federal Citation: 40 CFR 60.44b(j)(2) & (k) , 7/1/99]
[Minor Permit AQ0316MSS02]

17.2 Maintain and operate a system approved by the Department to monitor and record the daily fuel consumption. Record the fuel consumption for the past 12 months. Calculate the annual capacity factor at the end of each calendar month.

[Federal Citation: 40 CFR 60.44b(j)(2) & (k) , 7/1/99]
[Minor Permit AQ0316MSS02]

17.3 Semi-annual reports shall be submitted to the EPA Administrator, shall be postmarked by the 30th day following the end of the reporting period, and shall contain: (1) the annual capacity factor over the previous 12 months, and (2) the hours of operation during the reporting period. Include copies of the six-month reports with the operating report required by condition 76.

[Federal Citation: 40 CFR 60.44b(j)(2) & (k) , 7/1/99]
[Minor Permit AQ0316MSS02]

17.4 Submit a report in accordance with condition 53 if any heat input for any 12 consecutive months exceeds 158,468 mmBtu/yr.

[Minor Permit AQ0316MSS02]

Coal Slurry

18. If firing or co-firing EU IDs 3, 4 or 8 with a coal water slurry, the Permittee shall conduct source tests on the unit(s) operating with a coal water slurry to determine the particulate matter (PM-10) emissions.

[Minor Permit AQ0316MSS02]

18.1 Conduct all tests and report the results in accordance with the requirements described in Section 8. For EU ID 8, note whether the unit was operating with or without NO_X controls.

18.2 Conduct all tests at the maximum anticipated coal water slurry feed rate.

18.3 Commence the tests within 90 days of starting operation with the coal water slurry.

18.4 Submit a revised particulate matter grain loading demonstration and Prevention of Significant Deterioration (PSD) PM-10 permit applicability determination with the source test report.

19. If firing or co-firing EU ID 8 with a coal water slurry, the Permittee shall conduct source tests on the unit operating with a coal water slurry to determine the NO_X emission factor in lb per gallon.

[Minor Permit AQ0316MSS02]

19.1 Conduct all source tests and report the results in accordance with the requirements described in Section 8.

19.2 Conduct a series of source tests at the maximum anticipated coal water slurry feed rate.

a. Conduct the tests with and without NO_X controls.

b. Commence the tests within 90 days of starting operation with the coal water slurry.

c. Note in the source test report whether the resulting NO_X emission rates are greater than or less than the corresponding NO_X emission factors listed in conditions 16.3a and 16.3b.

d. Use the resulting NO_X emission rates in conditions 16.3a and 16.3b when firing coal water slurry.

20. The Permittee shall operate each Unit 3, 4, or 8 with coal-water slurry at a rate **no** greater than that for which source testing has demonstrated compliance with emission standards established in the permit.

[Minor Permit AQ0316MSS02]

Insignificant Emission Units

21. For emission units at the stationary source that are insignificant as defined in 18 AAC 50.326(d)-(i) that are not listed in this permit, the following apply:

[18 AAC 50.346(b)(4), 10/1/04]

21.1 The Permittee shall submit the compliance certifications of condition 77 based on reasonable inquiry;

21.2 The Permittee shall comply with the requirements of condition 53;

21.3 The Permittee shall report in the operating report required by condition 76 if an emission unit is insignificant because of actual emissions less than the thresholds of 18 AAC 50.326(e) and actual emissions become greater than any of those thresholds;

22. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from an industrial process, fuel-burning equipment, or an incinerator to reduce visibility through the exhaust effluent by any of the following:

22.1 more than 20 percent for a total of more than three minutes in any one hour[5];

[18 AAC 50.050(a)(2) & 50.055(a)(1), 1/18/97]
[40 C.F.R. 52.70, 7/1/03]

22.2 more than 20 percent averaged over any six consecutive minutes[6].

[18 AAC 50.050(a) & 50.055(a)(1), 5/03/02]

23. The Permittee shall not cause or allow particulate matter emitted from an industrial process or fuel-burning equipment to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.055(b)(1), 1/18/97]

24. The Permittee shall not cause or allow sulfur compound emissions, expressed as SO_2, from an industrial process or fuel-burning equipment, to exceed 500 ppm averaged over three hours.

[18 AAC 50.055(c), 1/18/97]

Incinerator Limit and Prohibition

25. The Permittee

25.1 in order to maintain the Hospital and Medical/Infectious Waste exemption under 40 CFR 60.50c, the Permittee shall not incinerate in EU ID 9A a combination of hospital and/or medical/infectious waste that is more than 10 percent of the total amount, by weight, of the total amount incinerated as measured on a calendar quarter basis. Hospital and medical/infectious waste have the meanings as given in 40 C.F.R. 62.14490. Pathological waste, chemotherapeutic waste, and low-level radioactive waste are not considered hospital or medical/infectious waste.

[40 C.F.R. 60.50c Subpart E, 7/1/03
[40 C.F.R. 60.30e, Subpart Ce, & 40 C.F.R. 262, 7/1/03]

25.2 in order to maintain the Pathological Waste Incineration exemption under 40 CFR 2887(l) shall incinerate in EU ID 9A a combination of pathological waste, low-level radioactive waste, and/or chemotherapeutic waste that is more than 90 percent or more by weight (on a calendar quarter basis and excluding the weight of auxiliary fuel and combustion air). Pathological waste, low-level radioactive waste, and/or chemotherapeutic waste meanings as given in 40 CFR 60.2977

[40 C.F.R. 60 Subpart EEEE, 7/1/06]

[5] See Footnote **Error! Bookmark not defined.**.
[6] See Footnote **Error! Bookmark not defined.**.

[40 C.F.R. 60.2887(l) and 40 C.F.R. 60.2997, 7/1/06]

25.3 The Permittee shall monitor and record the combined weight of hospital and medical/infectious waste incinerated in EU ID 9A during each quarter.

25.4 The Permittee shall monitor and record the combined weight of pathological, low-level radioactive, and/or chemotherapeutic waste incinerated in EU ID 9A during each quarter.

25.5 The Permittee shall monitor and record the total weight of all the waste incinerated in EU ID 9A during each quarter.

25.6 The Permittee shall, within 30 days after each calendar quarter, calculate and record the percent by weight of hospital and medical/infectious waste, pathological, low-level radioactive, and/or chemotherapeutic waste, and any other waste that was incinerated in EU ID 9A during the calendar quarter.

25.7 The Permittee shall report under condition 75 whenever the resultant calculation for hospital and medical/infectious waste in condition 25.6 is more than 10 percent.

25.8 The Permittee shall report under condition 75 whenever the resultant calculation for pathological, low-level radioactive, and/or chemotherapeutic waste in condition 25.6 is less than 90 percent.

25.9 The Permittee shall report in the facility operating report, required under condition 76, the data recorded under conditions 25.3 through 25.6.

[Standard Operating Permit Condition VII – Operating Reports 8/25/04]
[40 C.F.R. 60.30e Subpart Ec, & 40 C.F.R. 262, 7/1/03]
[40 C.F.R. 60,.50 Subpart E, 7/1/03]

26. Permittee shall not process any material that meets the definition of Hazardous Waste under 40 C.F.R. 261, 18 AAC 62, or requires Federal authorization for treatment under the Toxic Substances Control Act. The Permittee may not process any household hazardous waste or conditionally exempt small quantity generator of hazardous waste, even though these wastes are exempt or conditionally exempt from hazardous waste regulation.

[40 C.F.R. 60.30e Subpart Ec, & 40 C.F.R. 262, 17/1/03]
[40 C.F.R. 60.50c(c)]

Section 4. Standard Operating Permit Conditions for Coal-Fired Boilers

27. **Coal Fired Boiler Visible Emissions:** The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from EU IDs 1 & 2 listed in Table A to reduce visibility through the exhaust effluent by more than 20 percent for more than three minutes in any one hour, except for an additional three minutes in any one hour if

    a. the visible emissions are caused by startup, shutdown, soot blowing, grate cleaning, or other routine maintenance activities;

    b. the Permittee shall monitor visible emissions by continuous opacity monitoring instrumentation that conforms to the requirements set out in conditions 27.2a and 27.2c;

    c. the Permittee provides the Department with a demonstration that the particulate matter emissions from the boiler allowed by this opacity limit will not cause or contribute to a violation of the ambient air quality standards for PM-10 in 18 AAC 50.010, or to cause the maximum allowable increases for PM-10 in 18 AAC 50.020 to be exceeded; and

    d. the federal administrator approves a stationary source-specific revision to the State implementation plan, required under 42 U.S.C. 7410, authorizing the application of this opacity limit instead of the opacity limit otherwise applicable under this section.

[18 AAC 50.055(a)(9), 12/3/05]

27.2 **Coal Fired Boiler Visible Emissions Monitoring: Procedures for Operation of a COMS.** The following procedure applies to monitoring visible emissions using a Continuous Opacity Monitoring System (COMS):

[18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3)(i), 7/1/03]

    a. The COMS must meet the performance specifications in 40 C.F.R. 60, Appendix B, Performance Specification 1, adopted by reference in 18 AAC 50.040(a);

    b. Operate and maintain the COMS in accordance with the manufacturer's written requirements and recommendations;

    c. Except during COMS breakdowns, repairs, calibration checks, and zero and upscale adjustments, complete one cycle of sampling and analyzing for each successive 10-second period of source operation; from this data, calculate and record the average opacity for each successive one-minute period;

    d. At least once daily, conduct a zero and upscale check in accordance with 40 C.F.R. 60.13(d), adopted by reference in 18 AAC 50.040(a), and a written procedure; adjust whenever the zero or upscale drift exceeds four percent opacity in a 24-hour period;

27.3 Conduct performance audits as follows:

a. For a COMS that was new, relocated, replaced, or substantially refurbished on or after April 9, 2001, perform an audit that includes the following elements as described in the Department's *Performance Audits for COMS*, adopted by reference in 18 AAC 50.030, at least once in each 12 months:

(i) optical alignment;

(ii) zero and upscale response assessment;

(iii) zero compensation assessment;

(iv) calibration error check; and

(v) zero alignment assessment;

b. For a COMS that was new, relocated, replaced, or substantially refurbished before April 9, 2001, perform the same audits required under condition 27.3a, except that conditions 27.3a(i) through 27.3a(iv) must be performed at least quarterly; this frequency may be reduced if

(i) the Permittee demonstrates, by applying measurable criteria to the results of quarterly audits, that quarterly audits are not necessary; and

(ii) the Department gives written approval for the reduction in frequency.

27.4 If any of the COMS on the coal-fired boilers, EU IDs 1 & 2, is out of service for more than 24 hours, or the COMS failed the performance audit, then the Permittee shall use the visible emissions monitoring described in condition 2 immediately.

27.5 **Coal Fired Boiler Visible Emissions Reporting and Recordkeeping:** EU IDs 1 & 2 listed in Table A are subject to the following VE recordkeeping and reporting requirements:

[18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3)(ii) & (iii), 7/1/03]

a. Maintain records of all calculated one-minute average opacity values for COMS and records of the COMS performance audits required under condition 27.3, according to the requirements of condition 71.

b. If any of the COMS is malfunctioning or non-operable for three or more consecutive days, the Permittee shall notify the Department by telephone or in writing on the fourth day, indicating the cause of failure and anticipated time required to repair or replaced the instrument.

c. Report a violation of the emission standard in condition 27 by filing an Excess Emission Notification Form under condition 75 if the total number of one-minute values that exceed 20% opacity is greater than three during any given hour when the boiler is not undergoing startup, shutdown, soot blowing, grate cleaning, or other routine maintenance activities.

d. Report a violation of the emission standard in condition 27 by filing an Excess Emission Notification Form under condition 75 if the total number of one-minute values that exceed 20% opacity is greater than six during any given hour when the boiler is undergoing startup, shutdown, soot blowing, grate cleaning, or other routine maintenance activities.

28. **Coal Fired Boiler Particulate Matter (PM).** The Permittee shall not cause or allow particulate matter (PM) emitted from EU IDs 1 & 2 to exceed 0.1 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.055(b)(2), 1/18/97]

28.1 Coal Fired Boiler PM Monitoring and Recordkeeping. The Permittee shall do the following:

[18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3)(i) & (ii), 7/1/03]

a. At least once every 12 months, for each boiler that has operated 90 days or more during that period, inspect the exhaust duct work and the internal components of the dust collector for the presence of leaks; prior to restarting the boiler, repair all leaks in the exhaust ductwork and all leaks that would allow dirty gas to pass into the clean gas side of the dust collector;

b. Conduct source tests for particulate matter as follows:

(i) Conduct the tests and report the results in accordance with Section 8; for tests required under condition 31.1b(iii), submit the test plan to the Department according to condition 70;

(ii) Conduct additional tests on each boiler according to the following schedule where each test means a three hour average consistent with 18 AAC 50.220(f):

(A) If the most recent source test exceeded 90 percent of the emission standard, conduct a source test within 8760 operating hours of the previous test;

(B) If the most recent source test exceeded 75 percent of the emission standard, conduct a source test within 17520 operating hours of the previous test; and

(C) Within five years of the previous source test, conduct a test of each boiler operated during that time;

(iii) For any boiler with a induced draft fan speed limit that the operator wishes to change, the operator may operate in excess of the steam limit to perform source tests on which a new limit would be based. The operator may use a new limit based on the source testing if

(A) the Permittee submits a source test plan and the Department approves the plan in writing;

(B) the Permittee conducts source testing according to the source test plan and consistent with Section 8;

(C) the Permittee submits the results to the Department;

(D) the test results show compliance at the requested new induced draft fan speed rate; and

(E) the Department concurs with the new limit in writing, after finding that

(1) the test results will be representative of normal operation; and

(2) the new limit does not cause the stationary source to be subject to permitting under 18 AAC 50.300(h);

(iv) During each test, measure and record visible emissions and induced draft fan speed rates. Submit the records with the source test report; determine visible emissions consistent with monitoring methods of condition 2 for the duration of each one hour run;

c. Measure and record induced draft fan speed as follows:

(i) Operate and maintain a device to measure and record induced draft fan speed in accordance with the manufacturer's written requirements and recommendations;

(ii) Except during breakdowns, repairs, calibration checks, and zero and span adjustments of the device, complete at least one cycle of sampling and analyzing for each successive 15-minute period of boiler operation. From this data, calculate and record the average induced draft fan speed rate for successive one-hour periods. Maintain this data at the stationary source and make it available to the Department upon request;

(iii) Within one year after the effective date of this permit and at such times as the Department may require, determine the relative accuracy of each monitoring device required by condition 28.1c(i); and

(iv) Keep sufficient written records to show compliance with the requirements of this condition 28.1. In addition, keep records of the date and time identifying each period during which a device required by this permit is inoperative, except for zero and span checks, and records of the nature of device repairs and adjustments; upon request of the Department, submit copies of the records.

18 AAC 50.346(c) & 50.350(h), 5/03/02]

28.2 Coal Fired Boiler PM Reporting. The Permittee shall

[18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3)(iii), 7/1/03]

a. Submit a report in accordance with 75 whenever any of the following situations occur:

(i) when induced draft fan speed exceeds a permit limit;

(ii) when the results of a source test exceed the particulate matter emission limit; and

(iii) if a induced draft fan speed monitoring device malfunctions or becomes inoperable for four or more consecutive hours; in the report, identify the boiler, the cause of failure, and the anticipated time required to repair the device;

b. Include in each operating report under condition 76

(i) the results of each particulate matter source test;

(ii) for any boiler with a induced draft fan speed limit, the limit and averaging period, the highest induced draft fan speed rate for the period covered by the report (averaged over the same averaging period as the limit), and identification of any periods exceeding the limit; and

(iii) the results of any relative accuracy determination of steam monitoring equipment.

29. **Sulfur Compound Emissions.** The Permittee shall not cause or allow sulfur compound emissions, expressed as sulfur dioxide, from EU IDs 1 & 2 to exceed 500 ppm averaged over a period of three hours.

[18 AAC 50.055(c), 1/18/97]

29.1 **Coal Fired Boiler Sulfur Compound Emissions Monitoring.** The following applies to sulfur compound emission monitoring:

[18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3)(i), 7/1/03]

a. Upon receipt of each shipment of fuel at the stationary source, the Permittee shall

(i) Obtain a signed statement from the supplier with the following information:

(A) the percent sulfur by weight of the coal;

(B) the method of analysis; and

(C) a statement that the analysis was representative of the coal shipped;

(ii) If valid representative results are not available from the supplier, analyze a representative sample of the fuel to determine the sulfur content using ASTM D2492-90 for coal, adopted by reference in 18 AAC 50.035(c), or another method approved in writing by the Department for coal or other fuels; and

(iii) If the coal contains more than 0.4 percent sulfur by weight, calculate the three hour exhaust concentration expected to result from combusting each shipment of fuel using the following equation:

SO_2-concentration, *PPM* = 1.00 X 10^6 X mol-SO_2 / (mol-SO_2 + mol-CO_2 + mol-O_2 + mol-N_2)

Where:

mol-SO_2 = [wt%Sulfur$_{fuel}$, %] / 32.06

mol-CO_2 = [wt%Carbon$_{fuel}$, %] / 12.01

mol-O_2 = MF X (([wt%Nitrogen$_{fuel}$, %] / 28.01) + (4.76 X mol-SO_2) + (4.76 X mol-CO_2) + (1.88 X mol-H_2O) - (3.76 X ([wt%Oxygen$_{fuel}$, %] / 32.00))

MF = ([vol%$O_{2,\ exhaust}$, %] / (100% - 4.76 X [vol% $O_{2,\ exhaust}$, %]) (this should be taken on a three-hour basis)

mol-H_2O = [wt%Hydrogen$_{fuel}$, %] / 2.016

mol-N_2 = ([wt%Nitrogen$_{fuel}$, %] / 28.01) + (3.76 X mol-SO_2) + (3.76 X mol-CO_2) + (1.88 X mol-H_2O) + (3.76 X mol-O_2) - ([wt%Oxygen$_{fuel}$, %] / 8.51);

And Where:

The fuel weight percent (wt%) of carbon, nitrogen, oxygen, and hydrogen is obtained from the most recent analysis required by condition 29.1b;

The volume percent of oxygen in the exhaust (vol% $O_{2,\ exhaust,}$) is obtained from oxygen meters or from the most recent ORSAT analysis at the same boiler load used in the calculation; and

The fuel weight percent (wt%) of sulfur is obtained pursuant to condition 29.1a(i) or 29.1a(ii);

b. At least once each year, and whenever a shipment of coal contains more than 0.4 percent sulfur, obtain a representative sample of each fuel that is burned using the applicable procedures in 40 C.F.R. 60, Appendix A-7, Method 19, Section 12.5.2.1, adopted by reference in 18 AAC 50.040(a); conduct an ultimate analysis of the representative sample using ASTM D3176-89 (1997), adopted by reference in 18 AAC 50.035(c), or another method approved in writing by the Department to determine the weight percents, dry basis, of carbon, nitrogen, oxygen, and hydrogen. Alternatively, a total fuel analysis provided by the fuel supplier may be used to meet the requirement;

c. Conduct source tests on at least one coal fired boiler at the stationary source to determine sulfur compound emissions while burning each shipment of fuel if the calculations of condition 29.1a(iii) show that the exhaust SO_2 concentration would exceed 500 ppm. Results from previous source tests may be used.

29.2 **Coal Fired Boiler Sulfur Compound Emissions Record Keeping.** The Permittee shall keep records of the sulfur contents of each shipment of fuel, each calculated SO_2 concentration averaged over three-hours, and any test results and calculations determined under condition 29.1.

[18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3)(ii), 7/1/03]

29.3 Coal Fired Boiler Sulfur Compound Emissions Reporting. The Permittee shall

[18 AAC 50.326(j) & 50.346(c), 10/1/04]
[40 C.F.R. 71.6(a)(3)(iii), 7/1/03]

a. Submit a report in accordance with condition 75 whenever

(i) a three-hour exhaust concentration calculated pursuant to condition 29.1a(ii) is greater than 500 ppm; or

(ii) a source test pursuant to condition 29.1c has not shown compliance;

b. Include in each operating report under condition 76 a summary that includes

(i) sulfur contents of each shipment of fuel;

(ii) each calculated SO_2 concentration averaged over three hours; and

(iii) any test results and calculations required under condition 29.1.

Section 5. Performance Audits for COMS

30. **Performance audits.** The following elements shall be included in performance audits for Continuous Opacity Monitoring Systems (COMS), unless the Department gives written approval for unit-specific audit procedures.

[18 AAC 50.030(9) & 50.326(j), 10/1/04]
[40 C.F.R. 71.6(a)(3)(i), 7/1/03]

30.1 **Optical Alignment Assessment.** The status of the optical alignment of the monitor components shall be checked and recorded according to the procedures specified by the monitor manufacturer. Realign as necessary.

30.2 **Zero and Upscale Response Assessment.** The zero and upscale response errors shall be determined and recorded according to the calibration drift procedures of 8.1(4)(i) and (ii) in 40 C.F.R. 60, Appendix B, Performance Specification 1 (PS-1), adopted by reference in 18 AAC 50.040(a). The error is defined as the difference (in percent opacity) between the correct value and the observed value for the zero and high-level calibration checks.

30.3 **Zero Compensation Assessment.** The value of the zero compensation applied at the time of the audit shall be calculated as equivalent opacity, corrected to stack exit conditions as necessary, according to the procedures specified by the manufacturer. Record the compensation applied to the effluent recorded by the monitor system.

30.4 **Calibration Error Check.** Conduct a three-point calibration error test using three calibration attenuators that produce outlet path length corrected, single-pass opacity values shown in ASTM D 6216-98, section 7.5, adopted by reference in 18 AAC 50.035(c). If the applicable limit is less than 10 percent opacity, use attenuators as described in ASTM D 6216-98, section 7.5 for applicable standards of 10 to 19 percent opacity. Confirm the external audit device produces the proper zero value on the COMS data recorder. Separately, insert each calibration attenuator (low, mid, and high-level) into the external audit device. While inserting each attenuator, (1) ensure that the entire light beam passes through the attenuator; (2) minimize interference from reflected light; and (3) leave the attenuator in place for at least two times the shortest recording interval on the COMS data recorder. Make a total of five nonconsecutive readings for each attenuator. At the end of the test, correlate each attenuator insertion to the corresponding value from the data recorder. Subtract the single-pass calibration attenuator values corrected to the stack exit conditions from the COMS responses. Calculate the arithmetic mean difference, standard deviation, and confidence coefficient of the five measurements value using equations 1-3, 1-4, and 1-5 of PS-1. Calculate the calibration error as the sum of the absolute value of the mean difference and the 95 percent confidence coefficient for each of the three test attenuators using equation 1- 6 of PS-1. Report the calibration error test results for each of the three attenuators.

30.5 **Zero Alignment Assessment.** Compare the COMS simulated zero to the actual clear path zero of the installation. The assessment may be conducted in conjunction with, but prior to, other performance audit elements.

a. **Primary Zero Alignment Method.** The primary zero alignment shall be performed under clear path conditions. This may be accomplished if the process is not operating and the monitor path length is free of particulate matter or the monitor may be removed from its installation and set up under clear path conditions. The absence of particulate matter shall be demonstrated prior to conducting the test at the installed site. No adjustment to the monitor is allowed other than the establishment of the proper monitor path length and correct optical alignment of the monitor components. Record the monitor response to a clear path condition and to the monitor's simulated zero condition as percent opacity corrected to stack exit conditions as necessary. For monitors with automatic zero compensation, disconnect or disable the zero compensation mechanism or record the amount of correction applied to the monitor's simulated zero condition. The response difference in percent opacity to the clear path and simulated zero conditions shall be recorded as the zero alignment error. Adjust the monitor's simulated zero device to provide the same response as the clear path condition. Restore the COMS to its operating mode.

b. **Alternate Zero Alignment Method.** Monitors capable of allowing the installation of an external, removable zero-jig may use the equipment for an alternative zero alignment provided that the zero-jig setting is established for the monitor path length and recorded for the specific COMS by comparison of the COMS responses to the installed zero-jig and to the clear path condition. The zero-jig is shown to be capable of producing a consistent zero response when it is repeatedly (i.e., three consecutive installations and removals prior to conducting the final zero alignment check) installed on the COMS. The zero-jig setting shall be permanently set at the time of the initial COMS zeroing to the clear path zero value and protected when not in use to ensure that the setting equivalent to zero opacity does not change. The zero-jig setting shall be checked and recorded prior to initiating the zero alignment. Emission unit owners and operators that employ a zero-jig shall perform a primary zero alignment audit once every three years.

Section 6. Federal Requirements

Unit Subject to Federal New Source Performance Standards (NSPS), Subpart A

31. **NSPS Subpart A Notification.** For any affected facility[7] regulated under NSPS requirements in 40 C.F.R. 60, the Permittee shall furnish the Department and EPA written or electronic notification of:

[18 AAC 50.040(a)(1), 10/1/04]
[40 C.F.R. 60.7(a) & 60.15(d), Subpart A, 7/1/03]

31.1 the date that construction or reconstruction of an affected facility commences postmarked no later than 30 days after such a date;

[40 C.F.R. 60.7(a)(1), Subpart A, 7/1/03]

31.2 the actual date of initial startup of an affected facility postmarked within 15 days after startup;

[40 C.F.R. 60.7(a)(3), Subpart A, 7/1/03]

31.3 any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies unless that change is specifically exempted under an applicable subpart or in 40 C.F.R. 60.14(e), postmarked as soon as practicable but no more than 60 days before the change commences;

[40 C.F.R. 60.7(a)(4), Subpart A, 7/1/03]

31.4 the date of a continuous monitoring system performance demonstration, postmarked not less than 30 days prior to such date;

[40 C.F.R. 60.7(a)(5), Subpart A, 7/1/03]

31.5 the anticipated date for conducting the opacity observations required by 40 C.F.R. 60.11(e)(1), including, if appropriate, a request for the Department to provide a visible emissions reader during a performance test, postmarked not less than 30 days prior to such date;

[40 C.F.R. 60.7(a)(6), Subpart A, 7/1/03]

31.6 that continuous opacity monitoring system data results will be used to determine compliance with the applicable opacity standard during a performance test required in lieu of Method 9 observation data as allowed by 40 C.F.R. 60.11(e)(5), postmarked not less than 30 days prior to the date of the performance test; and

[40 C.F.R. 60.7(a)(7), Subpart A, 7/1/03]

31.7 any proposed replacement of an existing facility, for which the fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new facility, postmarked as soon as practicable, but no less than 60 days before commencement of replacement, and including the following information:

[7] *Affected facility* means, with reference to a stationary source, any apparatus to which a standard applies, as defined in 40 C.F.R. 60.2, effective 7/1/03.

[40 C.F.R. 60.15(d), 7/1/03]

a. the name and address of owner or operator,

b. the location of the existing facility,

c. a brief description of the existing facility and the components that are to be replaced,

d. a description of the existing and proposed air pollution control equipment,

e. an estimate of the fixed capital cost of the replacements, and of constructing a comparable entirely new facility,

f. the estimated life of the existing facility after the replacements, and

g. a discussion of any economic or technical limitations the facility may have in complying with 40 C.F.R. 60, after the replacements.

32. **NSPS Subpart A Startup, Shutdown, & Malfunction Requirements.** The Permittee shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of EU ID 4, any malfunctions of associated air-pollution control equipment, or any periods during which a continuous monitoring system or monitoring device for EU ID 4 is inoperative.

[18 AAC 50.040(a)(1), 10/1/04]
[40 C.F.R. 60.7(b), Subpart A, 7/1/03]

33. **NSPS Subpart A Excess Emissions and Monitoring Systems Performance Report.** Except as provided for in condition 34, the Permittee shall submit to the Department and to EPA a written "excess emissions and monitoring systems performance report " (EEMSP)[8] any time a limit in conditions 42 or 43 has been exceeded, as described in this condition. The Permittee shall submit the EEMSP reports to EPA quarterly, postmarked no later than 30 days after the end of the last calendar quarter.

[18 AAC 50.040(a)(1), 10/1/04]
[40 C.F.R. 60.7(c), Subpart A, 7/1/03]

33.1 The magnitude of excess emissions computed in accordance with condition 39.6, any conversion factors used, the date and time of commencement and completion of each time period of excess emissions, and the process operating time during the reporting period.

[40 C.F.R. 60.7(c)(1), Subpart A, 7/1/03]

33.2 Identification of each period of excess emissions that occurred during startup, shutdown, and malfunction of EU ID 4, the nature and cause of any malfunction, and the corrective action taken or preventative measures adopted.

[40 C.F.R. 60.7(c)(2), Subpart A, 7/1/03]

[8] The federal EEMSP report is not the same as the State excess emission report required by condition 75.

33.3 The date and time identifying each period during which a Continuous Monitoring System (CMS) was inoperative except for zero and span checks and the nature of any repairs or adjustments.

[40 C.F.R. 60.7(c)(3), Subpart A, 7/1/03]

33.4 A statement indicating whether or not any excess emissions occurred or the CMS was inoperative, repaired, or adjusted, at any time during the reporting period.

[40 C.F.R. 60.7(c)(4), Subpart A, 7/1/03]

34. **NSPS Subpart A Summary Report Form.** The Permittee shall submit to the Department and to EPA one "summary report form[9]" in the format shown in Figure 1 of 40 C.F.R. 60.7 for each pollutant monitored for EU ID 4 as follows:

[18 AAC 50.040(a)(1), 10/1/04]
[40 C.F.R. 60.7(d), Subpart A, 7/1/03]

34.1 If the total duration of excess emissions for the reporting period is less than one percent of the total operating time for the reporting period and CMS downtime for the reporting period is less than five percent of the total operating time for the reporting period, submit a summary report form **instead of** the EEMSP report described in condition 33, otherwise

[40 C.F.R. 60.7(d)(1), Subpart A, 7/1/03]

34.2 Submit a summary report form **along with** the EEMSP described in condition 33.

[40 C.F.R. 60.7(d)(2), Subpart A, 7/1/03]

35. **NSPS Subpart A Performance (Source) Tests.** The Permittee shall conduct initial source tests according to Section 8 and as indicated in this condition on any affected facility within 60 days after achieving the maximum production rate at which the unit will be operated, but not later than 180 days after initial startup, and at such other times as may be required by EPA, and shall provide the Department and EPA with a written report of the results of the source test. The Permittee shall:

[18 AAC 50.040(a)(1), 10/1/04]
[40 C.F.R. 60.8(a), Subpart A, 7/1/03]

35.1 Conduct source tests and reduce data as set out in 40 C.F.R. 60.8(b), and provide the Department copies of any EPA waivers or approvals of alternative methods.

[40 C.F.R. 60.8(b), Subpart A, 7/1/03]

35.2 Conduct source tests under conditions specified by EPA to be based on representative performance of EU IDs 4.

[40 C.F.R. 60.8(c), Subpart A, 7/1/03]

35.3 Notify the Department and EPA at least 30 days in advance of the source test.

[40 C.F.R. 60.8(d), Subpart A, 7/1/03]

35.4 Provide adequate sampling ports, safe sampling platform(s), safe access to sampling platform(s), and utilities for sampling and testing equipment.

[9] See Summary Report form in Attachment A of the Statement of Basis.

[40 C.F.R. 60.8(e), Subpart A, 7/1/03]

36. **NSPS Subpart A Good Air Pollution Control Practice.** At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate EU ID 4 including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. The Department will determine whether acceptable operating and maintenance procedures are being used based on information available to the Department, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance records, and inspections of EU ID 4.

[18 AAC 50.040(a)(1), 10/1/04]
[40 C.F.R. 60.11(d), Subpart A, 7/1/03]

37. **NSPS Subpart A Credible Evidence.** For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of the standards set forth in conditions 42 or 43, nothing in 40 C.F.R. Part 60 shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether EU ID 4 would have been in compliance with applicable requirements of 40 C.F.R. Part 60 if the appropriate performance or compliance test or procedure had been performed.

[18 AAC 50.040(a)(1); 10/1/04]
[40 C.F.R. 60.11(g), Subpart A, 7/1/03]

38. **NSPS Subpart A Concealment of Emissions.** The Permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission, which would otherwise constitute a violation of a standard set forth in conditions 42 or 43. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard that is based on the concentration of a pollutant in the gases discharged to the atmosphere.

[18 AAC 50.040(a)(1), 10/1/04]
[40 C.F.R. 60.12, Subpart A, 7/1/03]

39. **NSPS Subpart A Monitoring.** For a Continuous Monitoring System (CMS) required under condition 31, the Permittee shall:

[18 AAC 50.040(a)(1), 10/1/04]
[40 C.F.R. 60.13(a) Subpart A, 7/1/03]

39.1 Install and operate the CMS prior to a performance test conducted under condition 35, including completion of manufacturer's written requirements or recommendations for installation, operation, and calibration of device.

[40 C.F.R. 60.13(b), Subpart A, 7/1/03]

39.2 Check the zero (or low level value between zero and 20 percent of span value) and span (50 to 100 percent of span value) calibration drifts at least once daily in accordance with 40 C.F.R. 60.13(d).

[40 C.F.R. 60.13(d)(1), Subpart A, 7/1/03]

39.3 Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under condition 39.2, keep all CMS's in operation continuously and as follows:

[40 C.F.R. 60.13(e), Subpart A, 7/1/03]

39.4 for a Continuous Opacity Monitor (COMs), complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive six-minute period; otherwise

[40 C.F.R. 60.13(e)(1), Subpart A, 7/1/03]

39.5 complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

[40 C.F.R. 60.13(e)(2), Subpart A, 7/1/03]

39.6 Reduce data in accordance with:

[40 C.F.R. 60.13(h), Subpart A, 7/1/03]

a. Reduce all data to six-minute opacity averages shall be calculated from 36 or more data points equally spaced over each six-minute period.

b. Do not include data recorded during periods of CMS breakdowns, repairs, calibration checks, and zero and span adjustments in the data averages computed under this condition.

c. Convert all excess emission into units of the standard used in condition 40, after conversion the Permittee may round data to the same number of significant digits as used in the condition.

d. The Permittee may use an arithmetic or integrator average of all data, and record data in reduced or non-reduced form (e.g. ppm pollutant percent O_2 or ng/J of pollutant).

Steam Generating Units Subject to NSPS Subpart Db, EU ID 4

40. **NSPS Subpart Db Notification Requirement.** The Permittee of each affected facility shall submit notification of the date of construction or reconstruction, anticipated startup, and actual startup, as provided by 40 C.F.R. 60.7 (condition 31). This notification shall include:

[18 AAC 50.040(a)(2)(C), 12/3/05]
[40 C.F.R. 60.49b(a), Subpart Db, 7/1/03]

40.1 The design heat input capacity of the affected facility and identification of the fuels to be combusted in the affected facility,

40.2 If applicable, a copy of any Federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under §§ 60.42b(d)(1), 60.43b(a)(2), (a)(3)(iii), (c)(2)(ii), (d)(2)(iii), 60.44b(c), (d), (e), (i), (j), (k), 60.45b(d), (g), 60.46b(h), or 60.48b(i),

[40 C.F.R. 60.49b(a)(2), Subpart Db, 7/1/03]

40.3 The annual capacity factor at which the owner or operator anticipates operating the facility based on all fuels fired and based on each individual fuel fired, and,

[40 C.F.R. 60.49b(a)(3), Subpart Db, 7/1/03]

40.4 Notification that an emerging technology will be used for controlling emissions of sulfur dioxide. The Administrator will examine the description of the emerging technology and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of § 60.42b(a) unless and until this determination is made by the Administrator.

[40 C.F.R. 60.49b(a)(4), Subpart Db, 7/1/03]

41. **NSPS Subpart Db Fuel Consumption.** For EU ID 4, the Permittee shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for distillate oil and for natural gas for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month.

[18 AAC 50.040(a)(2)(C), 12/3/05]
[40 C.F.R. 60.49b(d) & (i), Subpart Db, 7/1/03]

42. **NSPS Subpart Db Sulfur Standards.** At all times, including periods of startup, shutdown, and malfunction, for EU ID 4, the Permittee shall not cause to be discharged into the atmosphere, any gases that contain sulfur dioxide in excess of 10% (0.10) of the potential sulfur dioxide emission rate (90% reduction) and that contain sulfur dioxide in excess of the emission limit determined according to Equation 5 .

Equation 5 $E_s = (K_b H_b) / (H_b)$

where: E_s = the sulfur dioxide emission limit, in ng/J or lb/million Btu heat input,
K_b = 340 ng/J (or 0.80 lb/million Btu),
H_b = the heat input from the combustion of oil, in J (million Btu).

[18 AAC 50.040(a)(2)(C), 12/3/05]
[40 C.F.R. 60.42b(a), Subpart Db, 7/1/03]

42.1 Monitoring – The owner or operator of an affected facility that combusts very low sulfur oil[10] is not subject to the emission monitoring requirements of this section if the owner or operator obtains fuel receipts as described in § 60.49b(r).

[40 C.F.R.60.45b(j), Subpart Db, 7/1/03]

[10] *Very low sulfur oil* means an oil that contains no more than 0.5 weight percent sulfur or that, when combusted without sulfur dioxide emission control, has a sulfur dioxide emission rate equal to or less than 215 ng/J (0.5 lb/million Btu) heat input. [40 C.F.R. 60.41b 7/1/05]

42.2 Record keeping and Reporting – The Permittee shall keep records and submit reports to EPA as follows:

a. The owner or operator of an affected facility that combusts very low sulfur oil is not subject to the compliance and performance testing requirements of this section if the owner or operator obtains fuel receipts as described in § 60.49b(r).

b. The owner or operator of an affected facility who elects to demonstrate that the affected facility combusts only very low sulfur oil under § 60.42b(j)(2) shall obtain and maintain at the affected facility fuel receipts from the fuel supplier which certify that the oil meets the definition of distillate oil as defined in § 60.41b. Reports shall be submitted to the Administrator certifying that only very low sulfur oil meeting this definition was combusted in the affected facility during the reporting period.

[40 C.F.R. 60.45b(j) & 60.49(r) Subpart Db, 7/1/03]

43. **NSPS Subpart Db PM & Nitrogen Oxides Standards:** At all times, except during periods of startup, shutdown, and malfunction, the Permittee shall not cause to be discharged into the atmosphere from EU ID 4 any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity.

[18 AAC 50.040(a)(2)(C), 10/1/04]
[40 C.F.R. 60.43b(f), Subpart Db, 7/1/04]
[40 C.F.R. 60.48b(a) 7/1/04]

43.1 If required by 40 C.F.R. 60.48b(a), the Permittee shall install, calibrate, maintain, and operate COMS for measuring the opacity of emissions discharged to the atmosphere and record the output of the system. Units that combust only oil that contains no more than 0.3 weight percent sulfur or liquid or gaseous fuels with potential sulfur dioxide emission rates of 140 ng/J (0.32 lb/MMBtu) heat input or less **are not required to conduct PM emissions monitoring** if they maintain fuel supplier certifications of the sulfur content of the fuels burned.

[40 C.F.R. 60.48b(a) 7/1/04]

43.2 The Permittee shall limit the combined annual capacity factor to less than 10% by not exceeding the heat input of 158,468 mmBtu/yr in EU ID 4 described in Table A in any 12 consecutive months.

[Minor Permit AQ0316MSS02]
[18 AAC 50.040(a)(2)(C) 12/3/05]
[40 C.F.R. 60.44b(j)(2)&(3) & (k), 7/1/99]

a. The Permittee shall record calendar date, daily hours of operation, and hourly steam load.

b. The Permittee shall record fuel consumption for oil and natural gas on a daily basis.

c. The Permittee shall maintain and operate a system approved by the Department to monitor and record the daily fuel consumption. No later than the 30th day of each calendar month, record the fuel consumption for the previous 12 months.

d. Permittee shall calculate the annual heat input in mmBtu/yr at the end of each calendar month for EU ID 4 using Equation 6.

Equation 6 $H = (FC_L \times H_L) + (FC_G \times H_G)$

where: H = Annual heat input (mmBtu/yr)
FC_L = Annual fuel consumption of oil (gallons)
H_L = Higher heating value for oil (mmBtu /gal) Permittee may use a vendor certification documenting the higher heating value for each shipment of fuel delivered, or alternatively use a value of 0.139 mmBtu /gal.
FC_G = Annual fuel consumption of natural gas (mmscf)
H_G = Higher heating value for natural gas (mmBtu/mmscf). Permittee may use a vendor certification documenting the higher heating value for natural gas, or alternatively use a value of 1,020 mmBtu/mmscf.

43.3 Monitoring – COMS shall be used for determining the opacity of stack emissions as described in condition 39.

[40 C.F.R. 60.46b(f) & 40.46b(d)(7), Subpart Db, 7/1/03]
[40 C.F.R. 60 Appendix A-4 Method 9, 7/1/03]

43.4 Recordkeeping – The Permittee shall

a. maintain records of opacity

[40 C.F.R. 60.49b(f), Subpart Db, 7/1/03]

b. maintain all records required under this section for a period of 2 years following the date of such record.

[40 C.F.R. 60.49b(o), Subpart Db, 7/1/03]

c. maintain record of the following information for each steam generating unit operating day, the Calendar date. The number of hours of operation, and a record of hourly steam load.

[40 C.F.R. 60.49b(p), Subpart Db, 7/1/03]

d. maintain records of the occurrences and duration of any start-up, shutdown, or malfunction in the operation of Boiler EU ID 4, and any malfunction of associated air pollution control equipment.

[40 C.F.R. 60.7(b), Subpart Db, 7/1/03]

43.5 Reporting – The Permittee shall

a. submit to EPA the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the COMS using the applicable performance specifications in appendix B.

[18 AAC 50.040(a)(2)(C), 12/03/05]
[40 C.F.R. 60.49b(b) & (c), Subpart Db, 7/1/03]

b. submit excess emission reports for any excess emissions from the affected facility which occur during the reporting period.

[40 C.F.R. 60.49b(h)(1) & (2), Subpart Db, 7/1/03]

c. Semi-annual reports shall be submitted to the EPA Administrator, postmarked by the 30th day following the end of the reporting period, and shall contain: (1) the annual capacity factor over the previous 12 months, (2) the annual heat input over the previous 12 months, and (3) the hours of operation during the reporting period. Include copies of the six-month reports submitted to EPA with the facility operating report in described in condition 76.

[Minor Permit AQ0316MSS02]

d. Submit a report as described in condition 75 if the heat input for any 12 consecutive months exceeds 158,468 MMBtu.

[Minor Permit AQ0316MSS02]

Section 7. General Conditions

Standard Terms and Conditions

44. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of the permit.

[18 AAC 50.326(j)(3), 10/1/04 & 50.345(a) & (e), 5/03/02]

45. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and re-issuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

[18 AAC 50.326(j)(3), 10/1/04 & 50.345(a) & (f), 5/03/02]

46. The permit does not convey any property rights of any sort, nor any exclusive privilege.

[18 AAC 50.326(j)(3), 10/1/04 & 50.345(a) & (g), 5/03/02]

47. **Assessable Emissions.** The Permittee shall pay to the Department an annual emission fee based on the stationary source's assessable emissions as determined by the Department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410(b). The Department will assess fees per ton of each air pollutant that the stationary source emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is the lesser of

[18 AAC 50.326(j)(1),& 50.346(b)(1), 10/1/04 and 50.410 – 50.420, 01/29/05]
[40 C.F.R. 71.5(c)(3)(ii), 7/1/03]

47.1 the stationary source's assessable potential to emit of 1,788.6 tpy; or

47.2 the stationary source's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon actual annual emissions emitted during the most recent calendar year or another 12-month period approved in writing by the Department, when demonstrated by

a. an enforceable test method described in 18 AAC 50.220;

b. material balance calculations;

c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or

d. other methods and calculations approved by the Department.

48. **Assessable Emission Estimates.** Emission fees will be assessed as follows:

48.1 No later than March 31 of each year, the Permittee may submit an estimate of the stationary source's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, 610 University Avenue, Fairbanks, AK 99709-3643; the submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the Department can verify the estimates; or

48.2 if no estimate is received on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set forth in condition 47.1.

[18 AAC 50.326(j)(1),& 50.346(b)(1), 10/1/04 and 50.410 – 50.420, 01/29/05]
[40 C.F.R. 71.5(c)(3)(ii), 7/1/03]

49. **Good Air Pollution Control Practice.** Applies to all sources, **except** NSPS regulated sources, i.e., except EU ID 4

a. perform regular maintenance considering the manufacturer's or the operator's maintenance procedures;

b. keep records of any maintenance that would have a significant effect on emissions; the records may be kept in electronic format; and

c. keep a copy of either the manufacturer's or the operator's maintenance procedures.

[18 AAC 50.030, 50.326(j)(3), & 50.346(b)(5), 10/1/04]

50. **Dilution.** The Permittee shall not dilute emissions with air to comply with this permit. Monitoring shall consist of an annual certification that the Permittee does not dilute emissions to comply with this permit.

[18 AAC 50.045(a), 1/18/97]

51. **Reasonable Precautions to Prevent Fugitive Dust.** A person who causes or permits bulk materials to be handled, transported, or stored, or who engages in an industrial activity or construction project shall take reasonable precautions to prevent particulate matter from being emitted into the ambient air.

[18 AAC 50.045(d), 12/3/05; and 18 AAC 50.040(e), 50. 326(j)(3), & & 50.346(c), 10/1/04]

51.1 The Permittee shall keep records of

a. complaints received by the Permittee and complaints received by the Department and conveyed to the Permittee; and

b. any additional precautions that are taken

(i) to address complaints described in condition 51.1 or to address the results of Department inspections that found potential problems; and

(ii) to prevent future dust problems.

51.2 The Permittee shall report according to condition 53.

52. **Stack Injection.** The Permittee shall not release materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack at a source constructed or modified after November 1, 1982, except as authorized by a construction permit, Title V permit, or air quality control permit issued before October 1, 2004.

[18 AAC 50.055(g), 10/1/04]

53. **Air Pollution Prohibited.** No person may permit any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property.

[18 AAC 50.110, 5/26/72; and 18 AAC 50.040(e), 50.326(j)(3), & 50.346(a),10/1/04]
[40 C.F.R. 71.6(a)(3), 7/1/03]

53.1 If emissions present a potential threat to human health or safety, the Permittee shall report any such emissions according to condition 75.

53.2 As soon as practicable after becoming aware of a complaint that is attributable to emissions from the stationary source, the Permittee shall investigate the complaint to identify emissions that the Permittee believes have caused or are causing a violation of condition 53.

53.3 The Permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if

a. after an investigation because of a complaint or other reason, the Permittee believes that emissions from the stationary source have caused or are causing a violation of condition 53; or

b. the Department notifies the Permittee that it has found a violation of condition 53.

53.4 The Permittee shall keep records of

a. the date, time, and nature of all emissions complaints received;

b. the name of the person or persons that complained, if known;

c. a summary of any investigation, including reasons the Permittee does or does not believe the emissions have caused a violation of condition 53; and

d. any corrective actions taken or planned for complaints attributable to emissions from the stationary source.

53.5 With each stationary source operating report under condition 76, the Permittee shall include a brief summary report which must include

a. the number of complaints received;

b. the number of times the Permittee or the Department found corrective action necessary;

c. the number of times action was taken on a complaint within 24 hours; and

d. the status of corrective actions the Permittee or Department found necessary that were not taken within 24 hours.

53.6 The Permittee shall notify the Department of a complaint that is attributable to emissions from the stationary source within 24 hours after receiving the complaint, unless the Permittee has initiated corrective action within 24 hours of receiving the complaint.

54. **Technology-Based Emission Standard.** If an unavoidable emergency, malfunction, or non-routine repair, as defined in 18 AAC 50.235(d), causes emissions in excess of a technology-based emission standard[11] listed in conditions 42 (NSPS Subpart Db Sulfur Standards) & condition 56 (refrigerants), the Permittee shall take all reasonable steps to minimize levels of emissions that exceed the standard. Excess emissions reporting under condition 75 requires information on the steps taken to minimize emissions. Monitoring of compliance for this condition consists of the report required under condition 75.

[18 AAC 50.235(a), 1/18/97 and 50.326(j)(4), 10/1/04]
[40 C.F.R. 71.6(c)(6), 7/1/03]

55. **Asbestos NESHAP.** The Permittee shall comply with the requirements set forth in 40 C.F.R. 61.145, 61.150, and 61.152 of Subpart M, and the applicable sections set forth in 40 C.F.R. 61, Subpart A and Appendix A.

[18 AAC 50.040(b)(1) & (2)(F), and 50.326(j), 10/1/04]
[40 C.F.R. 61, Subparts A & M, and Appendix A, 7/1/03]

55.1 In accordance with condition 73, the Permittee shall submit to the Department, at the time of submission to EPA, a copy of any notification and associated correspondence submitted to EPA for purposes of complying with the reporting requirements under condition 55.

[18 AAC 50.040(j), and 50.326(j), 10/1/04]

56. **Refrigerant Recycling and Disposal.** The Permittee shall comply with the standards for recycling and emission reduction of refrigerants set forth in 40 C.F.R. 82, Subpart F.

[18 AAC 50.040(d) & 50.326(j), 10/1/04]
[40 C.F.R. 82, Subpart F, 7/1/03]

[11] *Technology-based emission standard* means a best available control technology standard (BACT); a lowest achievable emission rate standard (LAER); a maximum achievable control technology standard established under 40 C.F.R. 63, Subpart B, adopted by reference in 18 AAC 50.040(c); a standard adopted by reference in 18 AAC 50.040(a) or (c); and any other similar standard for which the stringency of the standard is based on determinations of what is technologically feasible, considering relevant factors.

NESHAPs Applicability Determinations

57. The Permittee shall determine rule applicability and designation of affected sources under National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Source Categories (40 C.F.R. 63) in accordance with the procedures described in 40 C.F.R. 63.1(b). If a source becomes affected by an applicable subpart of 40 C.F.R. 63, Permittee shall comply with such standard by the compliance date established by the Administrator in the applicable subpart.

57.1 The Permittee must keep a record of the applicability determination on site for a period of 5 years after the determination or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the Permittee believes the source is unaffected. The analysis (or other information) must be sufficiently detailed to allow the Department to make a finding about the source's applicability status with regard to the relevant standard or other requirement.

[18 AAC 50.040(c)(1) & 50.326(j) 10/1/04]
[40 C.F.R. 71.6(a)(3)(ii), 7/1/03]
[40 C.F.R. 63.1(b), 63.6(c)(1) & 63.10(b), 2/03/03]

Halon Prohibitions, 40 C.F.R. 82

58. The Permittee shall comply with the following prohibitions set out in 40 C.F.R. 82.174 (Protection of Stratospheric Ozone Subpart G – Significant New Alternatives Policy Program).

[18 AAC 50.040(d), 10/1/04]
[40 C.F.R. 82.174 (b) - (d), 7/1/03]

58.1 Do not use a substitute which a person knows or has reason to know was manufactured, processed, or imported in violation of the regulations of 40 C.F.R. 82, Subpart G or knows or has reason to know was manufactured, processed, or imported in violation of any use restriction in the acceptability determination, after the effective date of any rulemaking imposing such restrictions.

58.2 Do not use a substitute without adhering to any use restrictions set by the acceptability decision, after the effective date of any rulemaking imposing such restrictions.

58.3 Do not use a substitute after the effective date of any rulemaking adding such substitute to the list of unacceptable substitutes.

59. The Permittee shall comply with the following prohibitions set out in 40 C.F.R. 82.270.

[18 AAC 50.040(d), 10/1/04]
[40 C.F.R. 82.270 (b)-(f), 7/1/03]

59.1 No person testing, maintaining, servicing, repairing, or disposing of halon-containing equipment or using such equipment for technician training may knowingly vent or otherwise release into the environment any halons used in such equipment, as follows:

59.2 De minimis[12] releases associated with good faith attempts to recycle or recover halon are not subject to this prohibition.

59.3 Release of residual halon contained in fully discharged total flooding fire extinguishing systems would be considered a de minimis release associated with good faith attempts to recycle or recover halon.

59.4 Release of halons during testing of fire extinguishing systems is not subject to this prohibition if the following four conditions are met:

a. systems or equipment employing suitable alternative fire extinguishing agents are not available;

b. system or equipment testing requiring release of extinguishing agent is essential to demonstrate system or equipment functionality;

c. failure of the system or equipment would pose great risk to human safety or the environment; and

(i) a simulant agent cannot be used in place of the halon during system or equipment testing for technical reasons.

d. Releases of halons associated with research and development of halon alternatives, and releases of halons necessary during analytical determination of halon purity using established laboratory practices are exempt from this prohibition.

e. This prohibition does not apply to qualification and development testing during the design and development process of halon-containing systems or equipment when such tests are essential to demonstrate system or equipment functionality and when a suitable simulant agent cannot be used in place of the halon for technical reasons.

f. This prohibition does not apply to the emergency release of halons for the legitimate purpose of fire extinguishing, explosion inertion, or other emergency applications for which the equipment or systems were designed.

59.5 Organizations that employ technicians who test, maintain, service, repair or dispose of halon-containing equipment shall take appropriate steps to ensure that technicians hired on or before April 6, 1998 will be trained regarding halon emissions reduction by September 1, 1998. Technicians hired after April 6, 1998 shall be trained regarding halon emissions reduction within 30 days of hiring, or by September 1, 1998, whichever is later.

[12] Legal term meaning "of minimum importance."

59.6 No person shall dispose of halon-containing equipment except by sending it for halon recovery to a manufacturer operating in accordance with NFPA[13] 10 and NFPA 12A standards, a fire equipment dealer operating in accordance with NFPA 10 and NFPA 12A standards or a recycler operating in accordance with NFPA 10 and NFPA 12A standards. This provision does not apply to ancillary system devices such as electrical detection control components which are not necessary to the safe and secure containment of the halon within the equipment, to fully discharged total flooding systems, or to equipment containing only de minimis quantities of halons.

59.7 No person shall dispose of halon except by sending it for recycling to a recycler operating in accordance with NFPA 10 and NFPA 12A standards, or by arranging for its destruction using one of the following controlled processes:

a. Liquid injection incineration;

b. Reactor cracking;

c. Gaseous/fume oxidation;

d. Rotary kiln incineration;

e. Cement kiln;

f. Radio frequency plasma destruction; or

g. An EPA-approved destruction technology that achieves a destruction efficiency of 98 percent or greater.

59.8 No owner of halon-containing equipment shall allow halon release to occur as a result of failure to maintain such equipment.

Open Burning Requirements

60. **Open Burning.** The Permittee shall comply with the following requirements when conducting open burning at the stationary source.

[18 AAC 50.065, 1/18/97; and 18 AAC 50.326(j) 10/1/04]
[40 C.F.R. 71.6(a) (3), 7/1/03]

60.1 **General Requirements.** Except when conducting open burning under 60.7, 60.8, or 60.9, a person conducting open burning shall comply with the limitations of 60.2 - 60.6 and shall ensure that

a. the material is kept as dry as possible through the use of a cover or dry storage;

b. before igniting the burn, non-combustibles are separated to the greatest extent practicable;

c. natural or artificially induced draft is present;

d. to the greatest extent practicable, combustibles are separated from grass or peat layer;

[13] National Fire Protection Association

e. combustibles are not allowed to smolder; and

f. sufficient written records are kept to demonstrate that the Permittee complies with the limitations in this condition. Upon request of the Department, submit copies of the records.

60.2 **Black Smoke Prohibited**. Except for firefighter training conducted under conditions 60.8 or 60.9, open burning of asphalts, rubber products, plastics, tars, oils, oily wastes, contaminated oil cleanup materials, or other materials in a way that gives off black smoke is prohibited without written Department approval. Department approval of open burning as an oil spill response countermeasure is subject to the Department's *In Situ Burning Guidelines for Alaska*, adopted by reference in 18 AAC 50.035. Open burning approved under this subsection is subject to the following limitations:

a. Open burning of liquid hydrocarbons produced during oil or gas well flow tests may occur only when there are no practical means available to recycle, reuse, or dispose of the fluids in a more environmentally acceptable manner;

b. The person who conducts open burning shall establish reasonable procedures to minimize adverse environmental effects and limit the amount of smoke generated; and

c. The Department will, in its discretion, as a condition of approval issued under this subsection, require public notice as described in condition 60.10.

60.3 **Toxic and Acid Gases and Particulate Matter Prohibited**. Open burning or incineration of pesticides, halogenated organic compounds, cyanic compounds, or polyurethane products in a way that gives off toxic or acidic gases or particulate matter is prohibited.

60.4 **Adverse Effects Prohibited**. Open burning of putrescible garbage, animal carcasses, or petroleum-based materials, including materials contaminated with petroleum or petroleum derivatives, is prohibited if it causes odor or black smoke that has an adverse effect on nearby persons or property.

60.5 **Air Quality Advisory**. Open burning is prohibited in an area if the Department declares an air quality advisory under 18 AAC 50.245, stating that burning is not permitted in that area for that day.

60.6 **Wood Smoke Control Areas**. Open burning is prohibited between November 1 and March 31 in a wood smoke control area identified in 18 AAC 50.025(b).

60.7 **Controlled Burning**. Controlled burning to manage forest land, vegetative cover, fisheries, or wildlife habitat, other than burning to combat a natural wildfire, requires written Department approval if the area to be burned exceeds 40 acres yearly. The Department will, in its discretion, require public notice as described in condition 60.10 of this section.

60.8 **Firefighter Training: Structures**. A fire service may open burn structures for firefighter training without ensuring maximum combustion efficiency under the following circumstances:

a. Before igniting the structure, the fire service shall

(i) obtain Department approval for the location of the proposed firefighter training; approval will be based on whether the proposed open burning is likely to adversely affect public health in the neighborhood of the structure;

(ii) visually identify materials in the structure that might contain asbestos, test those materials for asbestos, and remove all materials that contain asbestos;

(iii) ensure that the structure does not contain

(A) putrescible garbage;

(B) electrical batteries;

(C) stored chemicals such as fertilizers, pesticides, paints, glues, sealers, tars, solvents, household cleaners, or photographic reagents;

(D) stored linoleum, plastics, rubber, tires, or insulated wire;

(E) hazardous waste;

(F) lead piping;

(G) plastic piping with an outside diameter of four inches or more; or

(H) urethane or another plastic foam insulation;

(iv) provide public notice consistent with condition 60.10; and

(v) ensure that a fire-service representative is on-site before igniting the structure;

b. the fire service shall ignite and conduct training on only one main structure and any number of associated smaller structures at a time; examples of associated smaller structures are garages, sheds, and other outbuildings; and

c. the fire service shall respond to complaints in accordance with condition 60.11.

60.9 **Firefighter Training: Fuel Burning**. Unless a greater quantity is approved by the Department, a fire service may open burn up to 250 gallons of uncontaminated fuel daily and up to 600 gallons yearly for firefighter training without ensuring maximum combustion efficiency. To conduct this training without prior written Department approval, the fire service shall

a. provide public notice consistent with condition 60.10 before burning more than 20 gallons of uncontaminated fuel, unless waived in writing by the Department; and

b. respond to complaints in accordance with condition 60.11.

60.10 **Public Notice**. A person required to provide public notice of open burning shall issue the notice through local news media or by other appropriate means if the area of the open burning does not have local news media. The public notice must be issued as directed by the Department and must

a. state the name of the person conducting the burn;

b. provide a list of material to be burned;

c. provide a telephone number to contact the person conducting the burn before and during the burn;

d. for a surprise fire drill, state

(i) the address or location of the training; and

(ii) the beginning and ending dates of the period during which a surprise fire drill may be conducted (this period may not exceed 30 days); and

e. for open burning other than a surprise fire drill, state the expected time, date, and location of the open burning.

60.11 **Complaints**. A person required to provide public notice of open burning shall

a. make a reasonable effort to respond to complaints received about the burn;

b. keep, for at least 30 days, a record of all complaints received about the burn, including to the extent feasible

(i) the name, address, and telephone number of each person who complained;

(ii) a short summary of each complaint; and

(iii) any action the person conducting the open burning took to respond to each complaint; and

c. upon request, provide the Department with a copy of the records kept under condition 60.11b.

Section 8. General Source Testing and Monitoring Requirements

61. **Requested Source Tests.** In addition to any source testing explicitly required by the permit, the Permittee shall conduct source testing as requested by the Department to determine compliance with applicable permit requirements.

[18 AAC 50.220(a), 1/18/97 & 18 AAC 50.345(a) & (k), 5/03/02]

62. **Operating Conditions.** Unless otherwise specified by an applicable requirement or test method, the Permittee shall conduct source testing

[18 AAC 50.220(b), 1/18/97]

62.1 at a point or points that characterize the actual discharge into the ambient air; and

62.2 at the maximum rated burning or operating capacity of the source or another rate determined by the Department to characterize the actual discharge into the ambient air.

63. **Reference Test Methods.** The Permittee shall use the following as reference test methods when conducting source testing for compliance with this permit:

63.1 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(a) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60.

[18 AAC 50.220(c)(1)(A), 1/18/97 & 18 AAC 50.040(a), 10/1/04]
[40 C.F.R. 60, 7/1/03]

63.2 Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in Reference Method 9 and may use the form in Section 13 to record data.

[18 AAC 50.030, 5/03/02, 18 AAC 50.220(c)(1)(D), 1/18/97]

63.3 Source testing for emissions of total particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals, and acid gases must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60, Appendix A.

[18 AAC 50.040(a)(3), 10/1/04 & 18 AAC 50.220(c)(1)(E), 1/18/97]
[40 C.F.R. 60, Appendix A, 7/1/03]

63.4 Source testing for emissions of PM-10 must be conducted in accordance with the procedures specified in 40 C.F.R. 51, Appendix M, Methods 201 or 201A and 202.

[`18 AAC 50.035(b)(2), 10/1/04; and 50.220(c)(1)(F), 1/18/97]
[40 C.F.R. 51, Appendix M, 7/01/03]

63.5 Source testing for emissions of any pollutant may be determined using an alternative method approved by the Department in accordance with 40 C.F.R. 63, Appendix A, Method 301.

[18 AAC 50.040(c)(24), 10/1/04 & 50.220(c)(2), 1/18/97]
[40 C.F.R. 63, Appendix A, Method 301, 2/03/03]

64. **Excess Air Requirements.** To determine compliance with this permit, standard exhaust gas volumes must include only the volume of gases formed from the theoretical combustion of the fuel, plus the excess air volume normal for the specific source type, corrected to standard conditions (dry gas at 68° F and an absolute pressure of 760 millimeters of mercury).

[18 AAC 50.220(c)(3), 1/18/97 & 50.990(102), 10/1/04]

65. **Test Exemption.** The Permittee is not required to comply with conditions 67, 68 and 69 when the exhaust is observed for visible emissions by Method 9 Plan (condition 2.1) or Smoke/No Smoke Plan (condition 2.3).

[18 AAC 50.345(a), 5/03/02]

66. **Test Deadline Extension.** The Permittee may request an extension to a source test deadline established by the Department. The Permittee may delay a source test beyond the original deadline only if the extension is approved in writing by the Department's appropriate division director or designee.

[18 AAC 50.345(a) & (l), 5/03/02]

67. **Test Plans.** Except as provided in condition 65, before conducting any source tests, the Permittee shall submit a plan to the Department. The plan must include the methods and procedures to be used for sampling, testing, and quality assurance and must specify how the source will operate during the test and how the Permittee will document that operation. The Permittee shall submit a complete plan within 60 days after receiving a request under condition 61 and at least 30 days before the scheduled date of any test unless the Department agrees in writing to some other time period. Retesting may be done without resubmitting the plan.

[18 AAC 50.345(a) & (m), 5/03/02]

68. **Test Notification.** Except as provided in condition 65, at least 10 days before conducting a source test, the Permittee shall give the Department written notice of the date and the time the source test will begin.

[18 AAC 50.345(a) & (n), 5/03/02]

69. **Test Reports.** Except as provided in condition 65, within 60 days after completing a source test, the Permittee shall submit two copies of the results in the format set out in the *Source Test Report Outline*, adopted by reference in 18 AAC 50.030. The Permittee shall additionally certify the results in the manner set out in condition 72. If requested in writing by the Department, the Permittee must provide preliminary results in a shorter period of time specified by the Department.

[18 AAC 50.345(a) & (o), 5/03/02]

70. **Particulate Matter Calculations.** In source testing for compliance with the particulate matter standards in conditions 5, 23, and 28, the three-hour average is determined using the average of three one-hour test runs. The source testing must account for those emissions caused by soot blowing, grate cleaning, or other routine maintenance activities by ensuring that at least one test run includes the emissions caused by the routine maintenance activity and is conducted under conditions that lead

to representative emissions from that activity. The emissions must be quantified using the following equation:

Equation 7

$$E = E_M \left[(A + B) \times \frac{S}{R \times A} \right] + E_{NM} \left[\frac{(R - S)}{R} - \frac{B \times S}{R \times A} \right]$$

Where:

E = the total PM emissions of the source in grains per dry standard cubic foot (gr./dscf).

E_M = the PM emissions in gr./dscf measured during the test that included the routine maintenance activity.

E_{NM} = the arithmetic average of PM emissions in gr./dscf measured during the test runs that did not include the maintenance activity.

A = the period of routine maintenance activity occurring during the test run that included routine maintenance activity, expressed to the nearest hundredth of an hour.

B = the total period of the test run, less A.

R = the maximum period of source operation per 24 hours, expressed to the nearest hundredth of an hour.

S = the maximum period of routine maintenance activity per 24 hours, expressed to the nearest hundredth of an hour.

[18 AAC 50.220(f), 1/18/97]

Section 9. General Recordkeeping and Reporting Requirements

Recordkeeping Requirements

71. **Recordkeeping Requirements.** The Permittee shall keep all records required by this permit for at least five years after the date of collection, including:

[18 AAC 50.326(j), 10/1/04]
[40 C.F.R. 71.6(a)(3)(ii)(B), 7/1/03]

71.1 copies of all reports and certifications submitted pursuant to this section of the permit; and

71.2 records of all monitoring required by this permit, and information about the monitoring including:

a. the date, place, and time of sampling or measurements;

b. the date(s) analyses were performed;

c. the company or entity that performed the analyses;

d. the analytical techniques or methods used;

e. the results of such analyses; and,

f. the operating conditions as existing at the time of sampling or measurement.

Reporting Requirements

72. **Certification.** The Permittee shall certify all reports, compliance certifications, or other documents submitted to the Department and required under the permit by including the signature of a responsible official for the permitted stationary source following the statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete." Excess emission reports must be certified either upon submittal or with an operating report required for the same reporting period. All other reports and other documents must be certified upon submittal.

72.1 The Department may accept an electronic signature on an electronic application or other electronic record required by the Department if

a. a certifying authority registered under AS 09.25.510 verifies that the electronic signature is authentic; and

b. the person providing the electronic signature has made an agreement, with the certifying authority described in 72.1a, that the person accepts or agrees to be bound by an electronic record executed or adopted with that signature,

[18 AAC 50.345(a) & (j), 5/3/02; 18 AAC 50.205 & 50.326(j), 10/1/04]
[40 C.F.R. 71.6(a)(3)(iii)(A), 7/1/03]

73. **Submittals.** Unless otherwise directed by the Department or this permit, the Permittee shall send two copies of reports, compliance certifications, and other submittals required by this permit to ADEC, Air Permits Program, 610 University Avenue, Fairbanks, AK 99709-3643, ATTN: Compliance Technician. The Permittee may, upon consultation with the Compliance Technician regarding software compatibility, provide electronic copies of data reports, emission source test reports, or other records under a cover letter certified in accordance with condition 72.

[18 AAC 50.326(j), 10/1/04]
[40 C.F.R. 71.6(a)(3)(iii)(A), 7/1/03]

74. **Information Requests.** The Permittee shall furnish to the Department, within a reasonable time, any information the Department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit or to determine compliance with the permit. Upon request, the Permittee shall furnish to the Department copies of records required to be kept by the permit. The Department may require the Permittee to furnish copies of those records directly to the federal administrator.

[18 AAC 50.345(a) & (i), 5/3/02; 18 AAC 50.200, and 50.326(a) & (j), 10/1/04]
[40 C.F.R. 71.5(a)(2) & 71.6(a)(3), 7/1/03]

75. **Excess Emissions and Permit Deviation Reports.**

[18 AAC 50.235(a)(2), 50.240(c), 50.326(j)(3), and 50.346(b)(2) & (3), 10/1/04

75.1 Except as provided in condition 53, the Permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows:

a. in accordance with 18 AAC 50.240(c), as soon as possible after the event commenced or is discovered, report

(i) emissions that present a potential threat to human health or safety; and

(ii) excess emissions that the Permittee believes to be unavoidable;

b. in accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or non-routine repair that causes emissions in excess of a technology based emission standard;

c. report all other excess emissions and permit deviations

(i) within 30 days of the end of the month in which the emissions or deviation occurs, except as provided in conditions 75.1c(ii) and 75.1c(iii);

(ii) if a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the Department provides written permission to report under condition 75.1c(i); and

(iii) for failure to monitor, as required in other applicable conditions of this permit.

75.2 The Permittee must report using either the Department's on-line form, which can be found at http://www.dec.state.ak.us/air/ap/docs/adby/4notform.pdf, or if the Permittee prefers, the form contained in Section 15 of this permit. The Permittee must provide all information called for by the form that is used.

75.3 If requested by the Department, the Permittee shall provide a more detailed written report as requested to follow up an excess emissions report.

76. **Operating Reports.** During the life of this permit, the Permittee shall submit to the Department one original and one copy of an operating report by July 31 for the period January 1 to June 30 of the current year and by January 31 for the period July 1 to December 31 of the previous year.

[18 AAC 50.346(b)(6) & 50.326(j), 10/1/04]
[40 C.F.R. 71.6(a)(3)(iii)(A), 7/1/03]
[40 C.F.R. 63.7550(b)(4) 7/1/03]

76.1 The operating report must include all information required to be in operating reports by other conditions of this permit.

76.2 If excess emissions or permit deviations that occurred during the reporting period are not reported under condition 76.1, either

a. The Permittee shall identify

(i) the date of the deviation;

(ii) the equipment involved;

(iii) the permit condition affected;

(iv) a description of the excess emissions or permit deviation; and

(v) any corrective action or preventive measures taken and the date of such actions; or

b. When excess emissions or permit deviations have already been reported under condition 75 the Permittee may cite the date or dates of those reports.

76.3 The operating report must include a listing of emissions monitored under conditions 2.2e, and 2.3c, which trigger additional testing or monitoring, whether or not the emissions monitored exceed an emission standard. The Permittee shall include in the report

a. the date of the emissions;

b. the equipment involved;

c. the permit condition affected; and

d. the monitoring result which triggered the additional monitoring.

77. **Annual Compliance Certification.** Each year by March 31, the Permittee shall compile and submit to the Department one original and one copy of an annual compliance certification report.

77.1 Certify the compliance status of the stationary source over the preceding calendar year consistent with the monitoring required by this permit, as follows:

a. identify each term or condition set forth in Section 3 through Section 11, that is the basis of the certification;

b. briefly describe each method used to determine the compliance status;

c. state whether compliance is intermittent or continuous; and

d. identify each deviation and take it into account in the compliance certification;

77.2 In addition, submit a copy of the report directly to the EPA-Region 10, Office of Air Quality, M/S OAQ-107, 1200 Sixth Avenue, Seattle, WA 98101.

[18 AAC 50.205 & 50.326(j), 10/1/04 & 50.345(a) & (j), 5/03/02]
[40 C.F.R. 71.6(c)(5), 7/1/03]

Section 10. Permit Changes and Renewal

78. **Emissions Trading:** No permit revision shall be required under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in the permit.

[18 AAC 50.326(j), 10/1/04]
[40 C.F.R. 71.6(a)(8), 7/1/03]

79. **Off Permit Changes.** The Permittee may make changes that are not addressed or prohibited by this permit other than those subject to the requirements of 40 C.F.R. part 72 through 78 or those that are modifications under any provision of title I of the Act to be made without a permit revision, provided that the following requirements are met:

[18 AAC 50.326(j), 10/1/04]
[40 C.F.R. 71.6(a)(12), 7/1/03]

79.1 Each such change shall meet all applicable requirements and shall not violate any existing permit term or condition;

79.2 Provide contemporaneous written notice to the Department (and EPA, in the case of a program delegated pursuant to 40 C.F.R. 71.10) of each such change, except for changes that qualify as insignificant under 18 AAC 50.326(d) – (i). Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change;

79.3 The change shall not qualify for the shield under 40 C.F.R. 71.6(f);

79.4 The Permittee shall keep a record describing changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those changes.

80. **Operational Flexibility.** The Permittee may make changes within the permitted stationary source without requiring a permit revision if the changes are not modifications under any provision of Title I of the Act and the changes do not exceed the emissions allowable under this permit (whether expressed therein as a rate of emissions or in terms of total emissions):

[18 AAC 50.326(j), 10/1/04]
[40 C.F.R. 71.6(a)(13), 7/1/03]

80.1 The Permittee shall provide the Department with a notification no less than 7 days in advance of the proposed change.

80.2 For each such change, the written notification required above shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change.

80.3 The permit shield described in 40 C.F.R. 71.6(f) shall not apply to any change made pursuant to condition 80.

80.4 Trading of emission increases and decreases as described in 71.6(13)(iii) has not been requested by the Permittee.

81. **Construction of New Major Stationary Source or Major Modification.** An owner or operator must obtain a construction permit before beginning actual construction of a new major stationary source, a major modification, a PAL major modification, or a new stationary source or modification subject to the construction permitting requirements of 42 U.S.C. 7412(i) (Clean Air Act sec. 112(i)).

[18 AAC 50.302, 10/1/04]

82. **Construction of Source Modification.** An owner or operator must obtain a minor permit before making a physical change to or change in the method of operation of this source as classified in 18 AAC 50.502(c)(3) requiring a minor permit.

[18 AAC 50.502, 10/1/04]

83. **Transfer of Ownership.** The Permittee shall apply for an administrative permit amendment to allow for a change in ownership or operational control of a source where the Department determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new Permittee has been submitted to the Department.

[18 AAC 50.326(j), 10/1/04]
[40 C.F.R. 71.7(d)(iv), 7/1/03]

84. **Permit Renewal**. To renew this permit, the Permittee shall submit an application under 18 AAC 50.326 no sooner than **June 27, 2011** and no later than **June 27, 2012. The renewal application shall be complete before the permit expiration date listed on the cover page of this permit.** Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 40 C.F.R. 71.7(b) and 71.5(a)(1)(iii).

[18 AAC 50.326(c)(2) & (j)(2), 10/1/04]
[40 C.F.R. 71.5(a)(1)(iii) and 71.7(b) & (c)(1)(ii), 7/1/03]

Section 11. Compliance Requirements

General Compliance Requirements

85. Compliance with permit terms and conditions is considered to be compliance with those requirements that are

85.1 included and specifically identified in the permit; or

85.2 determined in writing in the permit to be inapplicable.

[18 AAC 50.326(j)(3), 10/1/04 & 50.345(a) & (b), 5/03/02]

86. The Permittee must comply with each permit term and condition. Noncompliance with a permit term or condition constitutes a violation of AS 46.14.120(c), 18 AAC 50, and, except for those terms or conditions designated in the permit as not federally enforceable, the Clean Air Act, and is grounds for

86.1 an enforcement action;

86.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280; or

86.3 denial of an operating permit renewal application.

[18 AAC 50.326(j)(3), 10/1/04 & 50.345(a) & (c), 5/03/02]

87. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.

[18 AAC 50.326(j)(3), 10/1/04 & 50.345(a) & (d), 5/03/02]

88. The Permittee shall allow the Department or an inspector authorized by the Department, upon presentation of credentials and at reasonable times with the consent of the owner or operator to

88.1 enter upon the premises where a source subject to the permit is located or where records required by the permit are kept;

88.2 have access to and copy any records required by the permit;

88.3 inspect any stationary source, equipment, practices, or operations regulated by or referenced in the permit; and

88.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

[18 AAC 50.326(j)(3) and 50.345(a) & (h), 10/1/04]

Compliance Schedule

89. For applicable requirements with which the **Fairbanks Campus Power Plant** is in compliance, the Permittee will continue to comply with such requirements.

[18 AAC 50.326(j), 10/1/04]
[40 C.F.R. 71.6(c)(3) & 71.5(c)(8)(iii)(A) 7/1/04]

90. For applicable requirements that will become effective during the permit term, the Permittee shall meet such requirements on a timely basis.

[18 AAC 50.326(j), 10/1/04]
[40 C.F.R. 71.6(c)(3) & 71.5(c)(8)(iii)(B) 7/1/04]

91. The Permittee shall develop and implement Compliance Assurance Monitoring (CAM) for EU IDs 1 & 2 in compliance with 40 C.F.R. Part 64 no later than six months after the effective date of this permit (or by a later date if approved by the Department in writing), and by following the compliance schedule described below:

[40 C.F.R. 64 7/1/06]
[40 C.F.R. 71.6(c)(3) – (4), & 71.5(c)(8)(iii)(C), 7/1/04]
[18 AAC 50.326(j), 12/3/05]

91.1 UAF shall submit a CAM plan to the Department in accordance with 40 C.F.R. Part 64 for EU IDs 1 & 2 by no later than sixty days following the effective date of this permit.

91.2 The CAM plan shall include specific information regarding contracts and equipment purchases required to implement the plan.

91.3 No later than six months after the effective date of this permit (or by a later date if approved by the Department in writing), UAF shall have fully implemented the monitoring strategy in accordance with 40 C.F.R. 64 for EU IDs 1 & 2.

91.4 The Permittee shall submit a status report via a letter to the Department no later than six months after the effective date of this permit (or by a later date if approved by the Department in writing). The status report shall include: (1) the progress the Permittee has made in achieving compliance with the CAM requirements in 40 C.F.R. 64, (2) the reasons for any noncompliance, and (3) a discussion of any matters relevant to the status of its compliance under condition 91.

92. The Permittee shall comply with either one of the sub-conditions (92.1, 92.2, 92.3) as listed below:

92.1 Within six-months after the effective date of this permit (or a later date if approved by the Department in writing), the Permittee shall submit a CAM plan for the Selective Catalytic Reduction (SCR) unit in accordance with 40 C.F.R. 64, and by following the compliance schedule described in items a through d below:

[40 C.F.R. 64 7/1/06]
[40 C.F.R. 71.6(c)(3) – (4), & 71.5(c)(8)(iii)(C), 7/1/04]
[18 AAC 50.326(j), 12/3/05]

a. UAF shall submit a CAM plan to the Department in accordance with 40 C.F.R. Part 64 for EU ID 8 by no later than sixty days following the effective date of this permit.

b. The plan shall include specific information regarding contracts and equipment purchases required to implement the plan.

c. No later than six months after the effective date of this permit (or by a later date if approved by the Department in writing), UAF shall have fully implemented the monitoring strategy in accordance with 40 C.F.R. 64 for EU ID 8.

d. Until the compliance date, submit a written quarterly, certified progress report. The progress report shall include a summary of activities and progress achieved in the prior calendar quarter to achieve compliance by the compliance date(s) specified above.

92.2 Within six-months after the effective date of this permit (or a later date if approved by the Department in writing) submit an Owner Requested Limit application to limit the pre-control NO_X potential-to-emit of EU ID 8 to below major source thresholds (as defined under 40 CFR part 70 or 71) in order to avoid CAM applicability.

92.3 Within three-months after the effective date of this permit (or a later date if approved by the Department in writing) submit an approvable plan to decommission the SCR.

a. The plan must show the SCR will be decommissioned within three-months after the effective date of this permit (or a by later date if approved by the Department in writing).

b. The decommissioning of the SCR must be verifiable by the Department.

Section 12. Permit As Shield from Inapplicable Requirements

In accordance with AS 46.14.290, and based on information supplied in the stationary source application, this section of the permit contains the requirements determined by the Department not to be applicable to **the Fairbanks Campus Power Plant**.

93. Nothing in this permit shall alter or affect the following:

93.1 The provisions of section 303 of the Act (emergency orders), including the authority of the Administrator under that section; or

93.2 The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance.

[18 AAC 50.326(j), 10/1/04]
[40 C.F.R. 71.6(f)(3)(i)) and (ii), 7/1/03]

94. Table C identifies the emission units that are not subject to the specified requirements at the time of permit issuance. If any of the requirements listed in Table C becomes applicable during the permit term, the Permittee shall comply with such requirements on a timely basis including, but not limited to, providing appropriate notification to EPA, obtaining a construction permit and/or an operating permit revision.

[18 AAC 50.326(j), 10/1/04]
[40 C.F.R. 71.6(f)(1)(ii), 7/1/03]

Table C - Permit Shields Granted.

EU ID	Non-Applicable Requirements	Reason for non-applicability
1 – 3	40 C.F.R. §60 Subparts D, Da, Db, & Dc.	Emission Units ID 1-3 were installed prior to the applicability date
5A	40 C.F.R. §60 Subpart Dc	Rated capacity is less than the applicability threshold of 10 MMBtu/hr
9A	40 C.F.R. §60 Subparts AAAA, CCCC, & Ec	This determination is based upon federally enforceable owner requested limit in conditions 25 and 26**Error! Reference source not found.**. Rated capacity is 6.4 tons per day, less than Subpart AAAA of at least 35 tpd of municipal solid waste. UAF is not a Commercial or Industrial facility as defined in Subpart CCCC. Owner Requested Limit 10% or less of medical waste in the fuel stream per Subpart Ec

Section 13. Visible Emissions Forms

Visible Emissions Field Data Sheet

Certified Observer: _____

Company & Stationary Source: _____

Location: _____

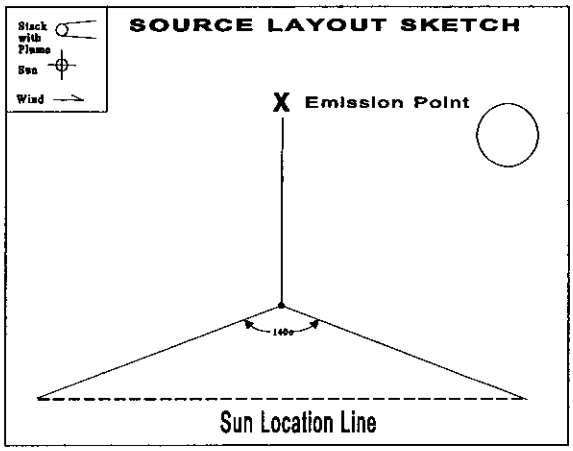
Test No.: _____ Date: _____

Emission Unit: _____

Production Rate/Operating Rate: _____

Unit Operating Hours: _____

Hrs. of observation: _____



Clock Time	Initial				Final
Observer location Distance to discharge					
Direction from discharge					
Height of observer point					
Background description					
Weather conditions Wind Direction					
Wind speed					
Ambient Temperature					
Relative humidity					
Sky conditions: (clear, overcast, % clouds, etc.)					
Plume description: Color					
Distance visible					
Water droplet plume? (Attached or detached?)					
Other information					

Visible Emissions Observation Record

Page _____ of _____

Company & Stationary Source _____ Certified Observer _____

Test Number Clock Time

Date:		Visibility reduction every 15 Seconds (Opacity)				Steam Plume (check if applicable)		Comments
Hr	Min	0	15	30	45	Attached	Detached	

Additional information:

_____ _____

Observer Signature and Date Certified By and Date

Data Reduction:

Duration of Observation Period (minutes): _____ Duration Required by Permit (minutes) _____
Number of Observations _____ Highest Six –Minute Average Opacity (%) _____
Number of Observations exceeding 20% _____
In compliance with three-minute aggregate opacity limit? (Yes or No) _____
In compliance with six-minute opacity limit? (Yes or No) _____

Average Opacity Summary

Set Number	Time Start—End	Opacity	
		Sum	Average

Section 14. Material Balance Calculation

If the sulfur content of a fuel shipment is greater than 0.75% by weight, calculate the three-hour exhaust concentration of SO_2 using the following equations:

A. = 31,200 x [**wt%S_{fuel}**] = 31,200 x _____ = _____

B. = 0.148 x [**wt%S_{fuel}**] = 0.148 x _____ = _____

C. = 0.396 x [**wt%C_{fuel}**] = 0.396 x _____ = _____

D. = 0.933 x [**wt%H_{fuel}**] = 0.933 x _____ = _____

E. = B + C + D = _____ + _____ + _____ = _____

F. = 21 – [**vol%$_{dry}$O2, $_{exhaust}$**] = 21 - _____ = _____

G. = [**vol%$_{dry}$O2, $_{exhaust}$**] ÷ F = _____ ÷ _____ = _____

H. = 1 + G = 1 + _____ = _____

I. = E x H = _____ x _____ = _____

SO_2 concentration = A ÷ I = _____ ÷ _____ = _____ ppm

The **wt%S_{fuel}**, **wt%C_{fuel}**, and **wt%H_{fuel}** are equal to the weight percents of sulfur, carbon, and hydrogen in the fuel. These percentages should total 100%.

The fuel weight percent (wt%) of sulfur is obtained pursuant to condition 13.1. The fuel weight percents of carbon and hydrogen are obtained from the fuel refiner.

The volume percent of oxygen in the exhaust (**vol%$_{dry}$$O_{2, exhaust}$**) is obtained from oxygen meters, manufacturer's data, or from the most recent ORSAT analysis at the same engine load used in the calculation.

Enter all of the data in percentages without dividing the percentages by 100. For example, if **wt%S_{fuel}** = 1.0%, then enter 1.0 into the equations not 0.01 and if **vol%$_{dry}$$O_{2, exhaust}$** = 3.00%, then enter 3.00, not 0.03.

[18 AAC 50.346(c), 10/1/04]

Section 15. ADEC Notification Form[14]

Stationary Source Name

Air Quality Permit Number

Company Name

When did you discover the Excess Emissions/Permit Deviation?

Date: _____ / _____ / _____ Time: _____ : _____

When did the event/deviation occur?

Begin Date: _____ / _____ / _____ Time: _____ : _____ (please use 24hr clock)

End Date: _____ / _____ / _____ Time: _____ : _____ (please use 24hr clock)

What was the duration of the event/deviation?: _____ : _____ (hrs:min) or _____ days

(total # of hrs, min, or days, if intermittent then include only the duration of the actual emissions/deviation)

Reason for Notification: (please check only 1 box and go to the corresponding section)

☐ Excess Emissions - Complete Section 1 and Certify.

☐ Deviation from Permit Condition - Complete Section 2 and Certify

☐ Deviations from COBC, CO, or Settlement Agreement - Complete Section 2 and Certify

Section 1. Excess Emissions

(a) Was the exceedance: ☐ Intermittent or ☐ Continuous

(b) Cause of Event (Check one that applies):

☐ Start Up /Shut ☐ Natural Cause (weather/earthquake/flood)

☐ Control Equipment Failure ☐ Scheduled Maintenance/Equipment Adjustment

☐ Bad fuel/coal/gas ☐ Upset Condition ☐ Other _____

(c) Description

Describe briefly, what happened and the cause. Include the parameters/operating conditions exceeded, limits, monitoring data and exceedance.

(d) Emissions Units Involved:

Identify the emission unit involved in the event, using the same identification number and name as in the permit. Identify each emission standard potentially exceeded during the event and the exceedance.

Unit ID	Unit Name	Permit Condition Exceeded/Limit/Potential Exceedance

[14] Revised as of December 6, 2004

(e) Type of Incident (Please Check only one).

☐ Opacity _____ % ☐ Venting _____ (gas/scf) ☐ Control Equipment Down

☐ Fugitive Emissions ☐ Emission Limit Exceeded ☐ Record Keeping Failure

☐ Marine Vessel Opacity ☐ Failure to moitor/report ☐ Flaring

☐ Other: _____

(f) Unavoidable Emissions:

Do you intend to assert that these excess emissions were unavoidable? ☐ Yes ☐ No

Do you intend to assert the affirmative defense of 18 AAC 50.235? ☐ Yes ☐ No

Certify Report (go to end of form)

Section 2 Permit Deviations

(a) Permit Deviation Type (check one only box, corresponding with the section in the permit).

☐ Emission Unit Specific

☐ General Source Test/Monitoring Requirements

☐ Recordingkeeping/Reporting/Compliance Certification

☐ Standard Conditions Not Included in Permit

☐ Generally Applicable Requirements

☐ Reporting/Monitoring for Diesel Engines

☐ Insignificant Emission Unit

☐ Stationary Source Wide

☐ Other Section _____ (title of section and section number of your permit).

(b) Emission Unit Involved.

Identify the emission unit involved in the event, using the same identification number and name as in the permit. List the corresponding permit conditions and the deviation.

Unit ID	Unit Name	Permit Condition / Potential Deviation

(c) Description of Potential Deviation:
Describe briefly what happened and the cause. Include the parameters/operating conditions and the potential deviation.

(d) Corrective Actions:
Describe actions taken to correct the deviation or potential deviation and to prevent future recurrence.

Certification:

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name: _____ Title: _____ Date: _____

Signature: _____ Phone Number: _____

To Submit this Report:

Fax to: 907-451-2187;

Email to: dec.aq.airreports@alaska.gov - *if emailed, the report must be certified within the Operating Report required for the same reporting period per condition 76;*

Mail to: ADEC, Air Permits Program, 610 University Avenue, Fairbanks, AK 99709-3643;

Phone Notification: 907-451-5173 - p*hone notifications require a written follow-up report within the deadline listed in condition 75; OR*

Online Submission: *(Website is not yet available) - if submitted online, the report must be certified within the Operating Report required for the same reporting period per condition 76.*

Alaska Department of Environmental Conservation
Air Permits Program
University of Alaska
Fairbanks Campus Power Plant

STATEMENT OF BASIS
of the Terms and Conditions for

Permit No. AQ0316TVP02

Prepared by David Schleiger

December 4, 2007

INTRODUCTION

This document sets forth the statement of basis for the terms and conditions of Operating Permit No. AQ0316TVP02.

STATIONARY SOURCE IDENTIFICATION

Section 1 of Operating Permit No. AQ0316TVP02 contains information on the stationary source as provided in the Title V permit application.

The stationary source is owned and operated by the University of Alaska, and the University of Alaska is the Permittee for the stationary source's operating permit. The SIC code for this stationary source is 8221 Colleges, University and Professional Schools.

The University of Alaska, Fairbanks Campus Power Plant building has two coal-fired boilers, installed in 1962, and two oil-fired boilers (converted to dual fuel-fired by minor permit AQ0316MSS02), installed in 1970 and 1987. The power plant building also has a 113,266 hp backup diesel generator installed in 1998. In addition to the power plant building, UAF has a small rated oil fired boiler used for the biological kill unit installed in 2006, two 125 kW backup diesel generators installed in 1968, and an incinerator installed before 1980 in the Arctic Health Research Center. The incinerator is due to be decommissioned and scrapped when the new crematory incinerator in the Biological Research & Diagnostics (BIRD) facility is operational. UAF has two backup oil-fired boilers in the West Ridge Research Building. These boilers are considered an insignificant source due to the owner imposed operating limit of 500 hours each per calendar year.

EMISSION UNIT INVENTORY AND DESCRIPTION

Under 18 AAC 50.326(a), the Department requires operating permit applications to include identification of all emissions-related information, as described under 40 C.F.R. 71.5(c)(3).

The emission units at the Fairbanks Campus Power Plant that are classified as having specific monitoring, recordkeeping, and reporting requirements are listed in Table A of Operating Permit No. AQ0316TVP02.

Table A of Operating Permit No. AQ0316TVP02 contains information on the emission units regulated by this permit as provided in the application. The table is provided for informational and identification purposes only. Specifically, the emission unit's rating/size provided in the table is not intended to create an enforceable limit. EU ID 5 from the previous permit was replaced by EU ID 5A. The replacement boiler was a like-in-kind replacement with a 1/3rd less capacity. EU ID 9 is planned to be replaced in December 2006 by a unit of equal size at an adjacent location. The table is provided for informational and identification purposes only.

EMISSIONS

A summary of the potential to emit (PTE)[15] and assessable PTE as indicated in the application, as submitted by the Permittee, from the **Fairbanks Campus Power Plant** are shown below in the Table D.

Table D - Emissions Summary, in Tons Per Year (TPY)

Pollutant	NO_X	CO	PM-10	SO_2	VOC	HAPs	Total
PTE	637	252	17	858	11	13.6	1,788.6
Assessable PTE	637	252	17	858	11	13.6	1,788.6

The assessable PTE listed under condition 47.1 is the sum of the emissions of each individual regulated air pollutant for which the stationary source has the potential to emit quantities greater than 10 tpy. The emissions listed in Table D are estimates that are for informational use only. The listing of the emissions does not create an enforceable limit to the stationary source.

For criteria pollutants, emissions are as provided in the application, as follows: Emission calculations were submitted by the applicant in tab D of the permit application.

The VOC total was calculated by the applicant using MSDS data.

The Permittee estimated HAPs emissions from the fuel burned in the facility and the medical waste combusted in the incinerator. It is based upon source testing of similar coal fired stoker boilers burning the same coal from Usibelli Coal Mine. The source test data is from tests conducted at Fort Wainwright and Clear Air Force Station. The Permittee estimates they have a HAPs emission rate of 6.6 tpy of hydrofluoric acid (HF), 4.1 tpy of hydrochloric acid (HCl), 1.5 tpy of hexanes, 0.6 tpy of lead (Pb), 0.7 tpy of formaldehyde (HCOH), and 0.1 tpy of cyanide. Total HAPs for information provided in the permit application. The Permittee has claimed a total emission of HAPs at 13.6 tpy.

BASIS FOR REQUIRING AN OPERATING PERMIT

In accordance with 18 AAC 50.326(a), an owner or operator of a Title V source[16] must obtain a Title V permit consistent with 40 C.F.R. Part 71, as adopted by reference in 18 AAC 50.040. This stationary source requires an operating permit because it is classified under:

(1) 18 AAC 50.326(a) and 40 C.F.R. 71.3(a)(1). Any major stationary source (or any group of stationary sources) belonging to a single major industrial grouping and that

[15] *Potential to Emit or PTE* means the maximum quantity of a release of an air pollutant, considering a facility's physical or operational design, based on continual operation of all sources within the facility for 24 hours a day, 365 days a year, reduced by the effect of pollution control equipment and approved State or federal limitations on the capacity of the facility's sources or the facility to emit an air pollutant, including limitations such as restrictions on hours or rates of operation and type or amount of material combusted, stored, or processed as defined in AS 46.14.990(21), effective 1/18/97.

[16] "Title V source" means a stationary source classified as needing a permit under AS 14.130(b) *[ref. 18 AAC 50.990(111)]*.

a. as defined in section 302 of the Act, directly emits, or has the potential to emit, 100 tpy or more of any air pollutant,

(2) 18 AAC 50.326(a) and 40 C.F.R. 71.3(a)(2). Any source, including an area source, subject to a standard, limitation or other requirement under section 111 of the Act (Standards of performance for new stationary source, NSPS).

CURRENT AIR QUALITY PERMITS

Previous Air Quality Permit to Operate

The most recent permit issued for this stationary source is permit-to-operate number AQ0316TVP01, Revision 3. This permit-to-operate includes all construction authorizations issued through August 9, 2006. All stationary source-specific requirements established in this previous permit are included in the new operating permit as described in Table E.

Minor Permits

Air Quality Control Minor Permit No. AQ0316MSS02 has been incorporated into this permit.

Title V Operating Permit Application, Revisions and Renewal History

The owner or operator submitted an application on February 7, 2005

COMPLIANCE HISTORY

The stationary source has operated at its current location since 1964. Review of the permit files for this stationary source, which includes the past inspection reports indicate a stationary source generally operating in compliance with its operating permit.

On January 6, 2004 a Compliance Order by Consent was issued to the University of Alaska, Fairbanks Campus Power Plant for exceeding the twelve month rolling total of 40 tons of NO_X per year from July 2002 through June 2003. In July 2002 UAF suffered a failure to the oil lube pump in their primary steam turbine. This necessitated UAF to run the diesel generator, emission unit 8, for electrical power. Emission unit ID 8 uses aqueous ammonia in a selective catalytic reduction (SCR) system to reduce NO_X emissions by 90 percent. UAF utilized an 8,000 gallon tank of aqueous ammonia to supply the SCR. However, do to the remote location and no local suppliers of aqueous ammonia UAF was only able to order aqueous ammonia in 6,000 gallons increments. This led the 8,000 gallon aqueous ammonia tank to be less than full at the start of the period when UAF increased the usage of the diesel engine. On July 10, 2002 UAF exceeded the NO_X limit of 40 tpy. On August 14, 2002, UAF again exceeded the NO_X limit after having experience problems with the delivery of aqueous ammonia. A Compliance Order by Consent was issued to UAF requiring them to pay a $4,500 fine with another $4,500 fine suspended and to install a second aqueous ammonia tank. On August 9, 2004 UAF notified the Department that the second aqueous ammonia tank had been installed. On September 17, 2004 the Department issued a letter closing the Compliance Order by Consent.

STATIONARY SOURCE-SPECIFIC REQUIREMENTS CARRIED FORWARD

State of Alaska regulation in 18 AAC 50.326(j) with reference to 40 C.F.R. Part 71.6 requires that an operating permit include all emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of permit issuance. These requirements include, but are not limited to, each facility-specific requirement established in the most recent operating permit or in any other construction permit issued under 18 AAC 50 that are still in effect at the time of permit issuance. Table E and Table F below list the requirements carried over from Permit-to-Operate No. AQ0316TVP01, Revision 3, and MinorPermit No. AQ0316MSS02 into Operating Permit No. AQ0316TVP02.

Table E - Comparison of Previous Permit-to-Operate No. AQ0316TVP01, Rev 3 to Operating Permit No. AQ0316TVP02 Conditions[17]

Permit No. AQ0316TVP01 Condition number	Description of Requirement	Permit No. AQ0316TVP02 Condition Number	How Condition was revised
Introductory paragraph , Sections 1 and 2	Authority for permit and source list	Introductory paragraph and Section 1	Same information, different format
Condition 1	Assessable Emissions	Condition 48	Stationary source assessable PTE changed from 1,724 tpy to 1,788.6tpy. 13.7 tpy of HAPS included in new permit.
Condition 2	Assessable Emissions Estimates	Condition 48	No significant change.
Section 4	Source Inventory and Description	Section 2	Same information, different format
Condition 3	Visible Emissions	Condition 22	No significant change.
Condition 3.1	Startup, Shutdown, soot blowing, or grate cleaning	Condition 27	Same information, different format
Condition 3.2 – 3.4	Operation of COMS	Condition 27.2– 27.4 & 30	New permit language added
Condition 4	Particulate Matter	Conditions 5 – 12 & 28	Same information, different format.
Condition 5	SO_2 emissions	Condition 13 & 29	Same information, different format.
Condition 6	Visible Emissions for Oil Fired Boilers	Conditions 2 & 3	General permit language for visible emissions
Condition 7	Particulate Matter for Oil Fired Boilers	Conditions 5, & 9 – 12	New format, new standard permit language, and addition of dual-fired requirements from AQ0316MSS02. Coal slurry fuel added back into permit.
Condition 8	SO_2 Emissions for Oil Fired Boilers	Conditions 13, 14 & 15	Condition now incorporates all oil fired sources
Condition 9	NSPS particulate matter standards ID 4	Condition 33.3 & 42-43	Same information, different format
Condition 10	Residual oil nitrogen content	N/A	Burning residual oil removed from permit

[17] This table does not include all standard and general conditions.

Permit No. AQ0316TVP01 Condition number	Description of Requirement	Permit No. AQ0316TVP02 Condition Number	How Condition was revised
Condition 11	10% limit NO_X	Conditions 17 & 43.2	Modified for dual fuel use. Limit changed to 158,468 MMBtu
Condition 12	Records of startup, shutdown, or malfunction for ID 4	Condition 32	Same information, different format
Condition 13	Good air pollution practices	Condition 36	Same information, different format
Condition 14	Credible Evidence	Condition 37	Same information, different format
Condition 15	Concealment of Emissions	Condition 38	Same information, different format
Condition 16	Visible Emissions source 6 – 8	Condition 23	Same information, different format
Condition 17	Particulate Matter sources 6 – 8	Condition 5	Condition written to include additional sources
Condition 18	Sulfur Emissions sources 6 – 8	Condition 13 & 24	Same information, different format
Condition 19	Exception to condition 20	N/A	Condition deleted from permit
Condition 20	Visible emissions for source ID 9	Condition 25	Standard operation condition VII language inserted
Condition 21	State PSD avoidance	Condition 14 - 16	Same information, different format, calculation formula provided.
Condition 22	NO_X limit	Condition 16	Same information, different format, language and formulas added for duel fuel use
Condition 23	Incinerator limit	Condition 25	Added the pathological exemption and monitoring, recordkeeping and reporting for the OSWI rule
Condition 24	Incinerator prohibition	Condition 26	No significant change
Condition 25 – 28	Insignificant sources	Condition 21	Emission units 10 and 11 removed from the permit.
Condition 29	Asbestos NESHAP	Condition 55	No significant change
Condition 30	Refrigerants	Condition 56	No significant change
Condition 31	Good Air Pollution Control Practices	Condition 49	Same information, different format
Condition 32	Dilution	Condition 50	Changed to an annual certification
Condition 33	Modification	Conditions 81 & 82	Changed to new permit language
Condition 34	Bulk Materials Handling, Construction and Industrial Activities	Condition 51	Re-titled to "Reasonable Precautions to Prevent Fugitive Dust" Complaint recording added
Condition 35	Stack Injection	Condition 52	Same information, different format
Condition 36	Open Burning	Condition 60	Same information, different format Word Smoke Control Areas added to general permit conditions. Controlled Burning, Fire Department Training, Controlled Burning, Firefighter Training: Structures; Fuel Burning, Public Notice, and Complaints added to requirements.

Permit No. AQ0316TVP01 Condition number	Description of Requirement	Permit No. AQ0316TVP02 Condition Number	How Condition was revised
Condition 36.1	Open Burning	Condition 60.2	Addition requirements added
Condition 37	Air Pollution Prohibited	Condition 53	Self reporting and record keeping requirements added
Condition 38	Technology Based Emission Standards	Condition 54	Same information, different format, Excess Emission reporting added
Condition 39	HAP Reconstruction	Condition 57	Same information, different format, Title changed
Condition 40	Permit Renewal	Condition 84	Additional language added
Condition 41	Requested Source Test	Condition 61	No change
Condition 42	Operating Conditions	Condition 62	No change
Condition 43	Reference Test Methods	Condition 63	Additional C.F.R. references sited for source testing
Conditions 44 – 48	Source test requirements	Conditions 64, 65, 66, 67, 68, & 69	Condition 65, Test Exemption & Condition 66, Test Deadline Extension added
Condition 49	Certification	Condition 72	Electronic signature method added
Condition 50	Submittals	Condition 73	Same information, electronic submittal of information added
Condition 51	Information Request	Condition 74	No change
Condition 52	Record Keeping	Condition 71	Same information, different format
Condition 53	Excess Emission & Permit Deviation Reports	Condition 75	New guidelines on when to submit reports
Condition 54	NSPS or NESHAPS		Condition removed from report
Condition 55	Operating Reports	Condition 76	Same information, different format
Condition 56	Annual Compliance Reports	Condition 77	Same information, different format
Condition 57	Credible Evidence		Condition removed from permit
Condition 58	Comply with Conditions of permit	Condition 86	No change
Condition 59	Not a defense	Condition 87	Same information, different format
Condition 60	Each permit term	Condition 44	No change
Condition 61	Compliance with permit terms and Conditions	Condition 85	No change
Condition 62	Modifying permit	Condition 45	No change
Condition 63	Property rights	Condition 46	No change
Condition 64	Access to facility by inspectors	Condition 88	No change
Condition 65	Permit shield	Condition 9394 Table C	Same information, different format
Condition 66	Permit shield	Condition 94 Table C	Shield changed to EU ID 5A
Condition 67	Permit shield	Condition 94 Table C	Shield applied to EU ID 9 & 9A
Condition 68, 69, & 70	Visible Emissions and Particulate Matter Monitoring Plan		Conditions removed from the permit. Visible emissions and particulate matter monitoring applied throughout permit

Permit No. AQ0316TVP01 Condition number	Description of Requirement	Permit No. AQ0316TVP02 Condition Number	How Condition was revised
Condition 71	Corrective Actions Based on Visible Emissions Observations		Condition removed from the permit. Corrective actions applied throughout permit
Condition 72	Particulate Matter Testing		Condition removed from the permit. Particulate matter testing specified for type of unit
Condition 73	Reporting requirements		No comparable condition in this permit
Condition 74	Stack measurements		Stack diameter measurement provided in earlier permit
Condition 75	Operating hours for source IDs 6-8		Condition removed from the permit
Condition 76	60-minute visible emission observations	Condition 4	References to 60-minute observations removed from the permit. Follow general guidelines for visible emission reporting
Condition 77	Excess emission reporting for 60-minute observations	Condition 4 Condition 75	References to 60-minute observations removed from the permit. Follow general guidelines for visible emission reporting and for excess emissions
Section 14	Visible Emission Evaluation Procedures	Condition 1 Section 13	Procedures for taking VE readings removed from the permit
Section 15	Continuous Opacity Monitoring Systems	Section 5 Condition 33 & 39	Section 5 covers Performance Audits for COMS, Conditions 30 & 36 have NSPS requirements
Section 16	Mass Balance Calculations	Section 14	Changed to Material Balance Calculations Sulfur content changed from 0.5 % to 0.75% sulfur by weight
Section 17	ADEC Notification Form	Section 15	Format of form changed, form revised 12/6/04

Table F - Comparison Construction Permit No. AQ0316MSS02 Conditions to Operating Permit No. AQ0316TVP02 Conditions[18]

Permit No. AQ0316MSS02 Condition number	Description of Requirement	Permit No. AQ0316TVP02 Condition Number	How Condition was revised
Condition 7	Emission Fees	Condition 47	Incorporated into permit. PTE changed from 1,724 to 1,788.6 tpy.
Condition 8	Assessable Emission Estimates	Condition 48	Incorporated into permit.
Condition 9	Limit Capacity to 10%	Condition 43.2	Incorporated into permit .
Condition 10	PSD avoidance Fuel Consumption	Condition 14	Incorporated into permit .
Condition 11	SO_2 Emissions Equation 2	Condition 15 Equation 1	Incorporated into permit
Condition 12	NO_X Emissions Equation 3	Condition 16 Equation 2, Equation 3, & Equation 4	Incorporated into permit
Condition 13	Coal Water Slurry	Condition 18	Reinstated into permit
Condition 14	Co-firing EU ID 8 w/coal-water slurry	Condition 19	Reinstated into permit
Condition 15	Operating EU ID 3, 4, or 8 with coal-water slurry	Condition 20	Reinstated into permit
Condition 16 - 17	Terms to make permit enforceable	Section 11	Standard permit terms
Condition 18	Permit terms	Condition 44	Standard permit terms
Condition 19	Permit terms	Condition 45	Standard permit terms
Condition 20	No property rights	Condition 46	Standard permit terms

CAM APPLICABILITY

The Department has determined that emission units IDs 1 & 2 are subject to the CAM rule as provided in 40 CFR 64. See SoB Condition 91 for a detailed explanation of the determination.

The Department has determined that emission units ID 8 is subject to the CAM rule as provided in 40 CFR 64. See SoB Condition 92 for a detailed explanation of the determination.

RISK MANAGEMENT PLAN (RMP) APPLICABILITY

Based on the information reviewed by the Department during the processing of the permit renewal application provided by the Permittee, the Permittee is not subject to the Risk Management Plan requirements of the CAA, section 122(r) "Prevention of Accidental Releases" and 40 C.F.R. 68 "Chemical Accident Prevention Provisions". The Permittee uses aqueous ammonia for the SCR and has onsite storage capability of 14,000

[18] This table does not include all standard and general conditions.

gallons. The ammonia is stored in two different tanks, an 8,000 gallon process tank and a 6,000 gallon spare tank used to refill the process tank. The 8,000 gallon process tank holds 17,000 lbs of ammonia. Per § 68.115(a) the amount of ammonia in process is less than the threshold amount of 20,000 lbs as listed in Table 1 of § 68.130.

The State and federal regulations for each condition cited in Operating Permit No. AQ0316TVP02.

Conditions 1, 2, 3, and 4 Visible Emissions Standard and MR&R

Applicability: This regulation applies to operation of all fuel-burning equipment in Alaska. EU IDs 3 - 9 are fuel-burning equipment.

Factual basis: Condition 1 requires the Permittee to comply with the federal and the State visible emission standards applicable to fuel-burning equipment and incinerators. The Permittee shall not cause or allow the equipment to violate these standards.

This condition has recently been adopted into regulation as a standard condition. MR&R requirements are listed in conditions 2 through 4, of the permit.

The Permittee must establish by actual visual observations which can be supplemented by other means, such as a defined Stationary Source Operation and Maintenance Program, that the stationary source is in continuous compliance with the State's emission standards for visible emissions and particulate matter.

These conditions detail a stepwise process for monitoring compliance with the State's visible emissions and particulate matter standards for liquid, gas and solid fuel fired sources. Equipment types covered by these conditions are internal combustion engines, turbines, heaters, and boilers. Initial monitoring frequency schedules are established along with subsequent reductions or increases in frequency depending on the results of the self-monitoring program.

Monitoring frequencies for hydrocarbon fuels, both liquid and gaseous, are detailed in these conditions. The monitoring intervals for gaseous fuels are less frequent than for liquid fuels in recognition of the reduced propensity of gaseous fuels to produce particulate matter as a result of combustion. This reduced level of monitoring for individual facilities in conjunction with the very large number of gas fired sources in Alaska should provide the Department with sufficient data to evaluate the compliance history of these sources as a category.

Reasonable action thresholds are established in these conditions that require the Permittee to progressively address potential visible emission problems from sources either through maintenance programs and/or more rigorous tests that will quantify whether a specific emission standard has been exceeded.

Gas Fired:

Monitoring – The Department has found that natural gas fired equipment inherently has negligible PM emissions. However, since EU IDs 3 & 4 are capable of being fired on gaseous fuel, liquid fuel, or a coal water slurry the monitoring requirements for liquid fired equipment is used.

Reporting – EU IDs 3 & 4 are capable of being fired on gaseous fuel, liquid fuel, or a coal water slurry. Normally the Department does not require reporting for gas-fired equipment except when fired on backup liquid fuel. However, since the Permittee is permitted to operate on three different types of fuel, the reporting requirement is based upon liquid fired equipment.

Liquid Fired:

Monitoring – The visible emissions may be observed by either Method-9 or the Smoke/No Smoke plans as detailed in conditions 2.1 and 2.3. Corrective actions such as maintenance procedures and either more frequent or less frequent testing may be required depending on the results of the observations.

Recordkeeping – The Permittee is required to record the results of all visible emission observations and record any actions taken to reduce visible emissions.

Reporting – The Permittee is required to report: 1) emissions in excess of the federal and the State visible emissions standard and 2) deviations from permit conditions. The Permittee is required to include copies of the results of all visible emission observations with the stationary source operating report.

Insignificant Sources:

For sources that are considered insignificant, no visible emissions monitoring is required because these sources are insignificant sources based on actual emissions. As long as the sources do not exceed these limits or thresholds, they are insignificant by emissions rate as specified in 18 AAC 50.326(e) and no monitoring is required in accordance with Department Policy and Procedure No. AWQ 04.02.103, Topic # 3, 10/8/04. The Permittee must annually certify compliance under condition 77 with the opacity standard.

Conditions 5, 7, 8, 9, 10, 11, & 12 Particulate Matter (PM) Standard

Applicability: The PM standard applies to operation of all fuel burning equipment in Alaska. EU IDs 3 - 8 are fuel-burning equipment. The SIP standard for PM applies to all fuel-burning equipment because it is contained in the federally approved SIP dated October 1983.

Factual basis: Condition 5 requires the Permittee to comply with the State PM (also called grain loading) standard applicable to fuel-burning equipment. The Permittee shall not cause or allow fuel-burning equipment to violate this standard.

MR&R requirements are listed in conditions 7, 8, 9, 10, 11, & 12, of the permit.

The Permittee must establish by actual visual observations, which can be supplemented by other means, such as a defined Stationary Source Operation and Maintenance Program that the stationary source is in continuous compliance with the State's emission standards for particulate matter.

These conditions detail a stepwise process for monitoring compliance with the State's particulate matter standards for liquid and gas fired sources. Equipment types covered by these conditions are internal combustion engines, turbines, heaters, and

boilers. Initial monitoring frequency schedules are established along with subsequent reductions or increases in frequency depending on the results of the self-monitoring program.

Monitoring frequencies for hydrocarbon fuels, both liquid and gaseous, are detailed in these conditions. The monitoring intervals for gaseous fuels are less frequent than for liquid fuels in recognition of the reduced propensity of gaseous fuels to produce particulate matter as a result of combustion. This reduced level of monitoring for individual facilities in conjunction with the very large number of gas fired sources in Alaska should provide the Department with sufficient data to evaluate the compliance history of these sources as a category.

Reporting – The Permittee must annually certify that only gaseous fuels are used in the equipment.

Gas Fired:

Monitoring – The Department has found that natural gas fired equipment inherently has negligible PM emissions. However, since EU IDs 3 & 4 are capable of being fired on gaseous fuel, liquid fuel, or a coal water slurry the monitoring requirements for liquid fired equipment are used.

Reporting – EU IDs 3 & 4 are capable of being fired on gaseous fuel, liquid fuel, or a coal water slurry. Normally the Department does not require reporting for gas-fired equipment except when fired on backup liquid fuel. However, since the Permittee is permitted to operate on three different types of fuel, the reporting requirement is based upon liquid fired equipment.

Liquid Fired:

Monitoring – The Permittee is required to conduct PM source testing if threshold values for opacity are exceeded.

Recordkeeping – The Permittee is required to record the results of PM source tests.

Reporting – The Permittee is required to report: 1) incidents when emissions in excess of the opacity threshold values have been observed, 2) and results of PM source tests. The Permittee is required to include copies of the results of all visible emission observations with the stationary source operating report.

Insignificant Sources:

As long as they operate within these limits they are considered insignificant sources by emissions as specified in 18 AAC 50.326(e) and no monitoring is required in accordance with Department Policy and Procedure No. AWQ 04.02.103, Topic # 3, 10/8/04. The Permittee must annually certify compliance under condition 77 with the particulate matter standard.

Condition 6, Incinerator Particulate Matter Emissions and MR&R

Applicability: The particulate matter emission standards as listed in Table B apply to the operation of an incinerator based on its rated capacity.

Factual Basis: The condition requires the Permittee to comply with the particulate matter emission standards applicable to incinerators based on rated capacity. The Permittee may not cause or allow the affected incinerator to violate this standard.

For incinerators with a rated capacity of less than 1000 pounds per hour, the Permittee is not required to monitor particulate matter because there is no standard set for such incinerators.

Condition 13, Sulfur Compound Emissions

Applicability: The sulfur emission standard applies to operation of all fuel-burning equipment in the State of Alaska. EU IDs 3 – 8 are liquid fuel-burning equipment. The SIP standard for sulfur dioxide applies because it is contained in the federally approved SIP dated October 1983.

Factual basis: The condition requires the Permittee to comply with the sulfur compound emission standard applicable to fuel-burning equipment. The Permittee may not cause or allow the affected equipment to violate this standard.

Sulfur dioxide comes from the sulfur in the liquid, hydrocarbon fuel (e.g. diesel or No. 2 fuel oil). Fuel containing no more than 0.75 percent sulfur by weight will always comply with the emission standard. For fuels with sulfur content higher than 0.75 percent, the condition requires the Permittee to use Section 14 to calculate the sulfur-dioxide concentration using the equations to show that the standard is not exceeded.

Fuel sulfur testing will verify compliance.

Fuel gas sulfur is measured as hydrogen sulfide (H_2S) concentration in ppm by volume (ppmv). Calculations[19] show that fuel gas containing no more than 4000 ppm H_2S will always comply with this emission standard. This is true for all fuel gases, even with no excess air.

Equations to calculate the exhaust gas SO_2 concentrations resulting from the combustion of fuel gas were not included in this permit. Fuel gas with an H_2S concentration of even 10 percent of 4000 ppm is currently not available in Alaska and is not projected to be available during the life of this permit.

Recordkeeping – For Diesel fuel the Permittee is required to record the fuel sulfur content or fuel grade of each shipment and all material balance calculations, and for fuel gas, the H_2S concentration of the fuel gas.

Reporting – The Permittee is required to report as State excess emissions whenever the fuel combusted causes sulfur compound emissions to exceed the standards in this condition. The Permittee is required to include the material balance calculations for fuel oil in the excess emissions report.

The Permittee is required to include copies of the records mentioned in the previous paragraph with the stationary source operating report.

[19] See ADEC Air Permits Web Site at http://www.dec.state.ak.us/air/ap/docs/sulfgas.pdf, under "Stoichiometric Mass Balance Calculations of Exhaust Gas SO2 Concentration."

Conditions 14, 15, 16, & 17, SO2 Emissions, & Owner Requested Limit for Nitrogen Oxides.

Legal Basis: [18 AAC 50.300(h)(3)(B)(ii), 1/18/97]

[18 AAC 50.300(h)(3)(B)(iii), 1/18/97]

[18 AAC 50.326 (j) 12/3/05]

[Minor Permit AQ0316MSS02]

Factual Basis: These conditions apply to all sources installed since August 1980, and the owner has requested limits to avoid the need for a PSD review of its application.

The emissions history is listed in Table G. It shows that the PSD-significant increase limits in Table H were not exceeded by the installation of a new major source, boiler #4, that was installed in 1987.

Table G - Heat/Power Plant boiler Actual Emissions (ton/yr) by EU ID and date.

Source	Coal Fired Boilers, EU ID 1 & 2				Oil Fired/Gas Fired Boilers, EU ID 3 & 4				Number of boilers
Pollutant and year	PM-10	SO_2	NO_X	CO	PM-10	SO_2	NO_X	CO	
1986	295	190	326	119	2.1	31.4	5.9	1.5	1
1987	3	193	412	150	2.8	25.7	7.9	2.0	2

Permitting history and emission limits--

Previous to the Title V permits program, the operating permits written by the Fairbanks office were written for the power plant only. Any sources outside the power plant's fence were not considered since the permit action excluded any source outside the fence. These outside sources were not large enough by themselves to require an operating permit. So it is not reasonable to consider the emissions from these sources as being additional emissions working against the PSD avoidance bank account for this Title V permit. In other words, they were not considered new sources for this permit. All these sources are insignificant or were installed previous to August 1980. The installation dates are shown in Table A.

The coal-fired boilers were installed in 1962. Since they predate any PSD program, their emissions in terms of ton/yr will not be limited. Two 125 KW diesel-electric generators (DEG) were installed in 1968. Since they predate any PSD program, their emissions in terms of ton/yr will not be limited. Since boiler #3, EU ID 3, was installed before 1980, its emissions in terms of ton/yr were never and will not be limited.

It is not known exactly when in 1980 the AHRC boiler was installed. The AHRC boiler at 3.3 MMBtu/hr is too small to have potential emissions approaching the PSD trigger limit, so its utilization will not be limited. Its actual emissions of NO_X plus SO_2 have been less than 0.5 tpy, so in accordance with 18 AAC 50.335(r), the AHRC boiler, EU ID 5 (now EU ID 5A), is a significant source (the previous permit stated emission unit 5 was insignificant in the Legal and Factual Basis, but per the emission

factors presented by the Permittee in the application for renewal, the source has the PTE 4.92 tons of SO_2 per year). Its utilization is very limited since it is dedicated to supplying steam for a biological "kill tank."

Permit 8631-AA008 contained the original PSD avoidance scenario for boiler #4, EU ID 4. The avoidance limits were 55.9 ton/yr of SO_2 and 47.5 ton/yr of NO_X combined for boilers #3 & 4. The permit's cover letter also specifies fuel quality and quantity limits of 1,069,529 gallons of #4 fuel oil, and 7,607 gallons of #2 fuel oil. The fuel limit is the same if lower sulfur fuels are used. Previous to installation of boiler #4, the coal-fired boilers had NO_X and SO_2 emission levels of 326 and 190 ton/yr; see Table G above. So when the coal-fired boilers are cut back, a like amount of additional NO_X and SO_2 would be available for utilization in boiler #4 (up to a 325/190 ton/yr limit for NO_X /SO_2). Previous to 1996, UAF had applied for a more restrictive limit for boiler #4.

New limits--

The emission from boiler #4 is now more limited because previous to 1996, UAF applied for an owner-requested operating limit of 10% utilization to avoid an NSPS (40 C.F.R. 60.49b(d)) NO_X monitoring requirement. That 10% utilization is a fuel oil consumption limit of 795,000 gallons per year. The application contains stack test results for SO_2 and NO_X emissions, but the test was conducted using a higher density heavier fuel oil. That causes higher emissions than with the lighter fuels presently used.

Using the fuel oil consumption limit referenced above and the AP-42 emission factors for NO_X emissions, boiler 4 would produce 8.0 ton of NO_X per year. That 8 tpy is well below the 40 ton./yr limit which would trigger a PSD review.

When 0.5 weight percent sulfur fuel is consumed at the fuel oil consumption limit, the SO_2 emission computed from an AP-42 emission factor is 28.2 tons per year. That 28.2 tpy is well below the 40 ton per year limit, which would trigger a PSD review. See the Emissions and PSD Avoidance Table H.

Change to condition ---

> UAF requested a limit of 40 tpy of NO_X to avoid PSD review. When the permit was written, a limitation of 795,000 gallons per year or 8 tons of NO_X per year was assigned to EU ID 4. This left 32 tons of NO_X per year for EU ID 8. UAF objected to the arbitrary imposition of limits to the units and requested to be able to manage the 40 tons per year of NO_X between the two units. The permit has been changed to remove the specific limitations on the units. EU IDs 4 & 8 are now limited to a combined 40 tons of NO_X per year. The permit has also been changed to allow for EU ID 4 to be fired either with natural gas or liquid fuel. This necessitated changing the fuel limit EU ID 4 to 158,468 mmBtu per rolling 12-month period. This change allows for the dual fuel capability of the unit.

Table H, below is provided for historical reference only and does not imply a restriction on any piece of equipment.

Table H. Emission and PSD Avoidance.

Pollutants	PM-10	SO_2	NO_X	CO
PSD significant increase, ton/yr [18 AAC 50.300(h)(3)(B)(i), (ii), (iii), & (v)]	15	40	40	100
Amount used by #4 boiler, EU ID 4	0.8	28.2*	8.0	2.0
Amount available for use by diesel-generator (DEG), EU ID 8 while avoiding PSD	14	<11.8	<32	<98
DEG limit, MWH/yr	>20,000	4,370*	12,080	>50,000

* Based upon 0.5 weight percent sulfur fuel oil.

The 40 ton/yr limits for NO_X and SO_X in conditions 14, 15, and 16 are the PSD-significant increase limits in the 3rd and 4th columns of Table H.

Emission Unit 8 is a 13,266 hp diesel-electric generator (DEG). It was intended as an experimental unit to be test-fired using a coal water slurry, but is fired with regular diesel fuel. It is fitted with a baghouse and a selective catalytic reduction unit for reduction of PM and NO_X emissions by 90%. Aqueous ammonia will be the chemical agent for reducing NO_X back to nitrogen (N_2). The emission factors, computed by UAF from vendor supplied data, in terms of pounds of pollutant per KWH output for each type of combustion source are shown in Table I. There are maximum and minimum values because some of the produced steam is used for district heat rather than being sent to a steam turbine. The maximum values represent the highest proportion of steam use for heating rather than for electrical generation, (steam/KWH). The UAF supplied emission factors for the DEG are shown in the last row of Table I.

Table I. Emission Factors pound per kilowatt-hour (KWH) of electrical output.

Pollutant	NO_X		SO_2		CO	
lb steam/KWH	max	min	Max	Min	max	min
Coal boiler	0.0214	0.0131	0.0118	0.0073	0.0078	0.0048
Oil boiler	0.0031	.00019	0.0113*	0.0069*	0.0008	0.0005
DEG/w SCR	0.0053	0.0027	0.0054*	--	0.0037	0.0013

* Based upon 0.5 weight percent sulfur fuel oil.

Emission limit--

The emission factors for the DEG from Table I (last row) were applied to the amount of emissions available (4th row of Table H) to calculate the MWH limits based on each pollutant.

The SO_2 emission limitation in Table H is 11.8 ton per year, which for 0.5% sulfur fuel is equivalent to 4,370 MWH/yr. UAF cannot produce more than 4,370 MWH of electricity from Diesel generator ID 8 in any 12 consecutive months if EU ID 4 emits 28.2 tons of SO_2 in that 12 consecutive month period. If lower sulfur fuel is used, EU ID 8 can produce more than 4,370 MWH per year. Also, if EU ID 4 does not consume 795,000 gallons of 0.5 percent sulfur fuel annually, EU ID 8 can produce more than 4,370 MWH in any 12 consecutive months.

The limitation for NO_X from Table H is 32 ton per year. The maximum NO_X emission per KWH of electrical production from EU IDs 4 & 8 is computed as 0.0053(KWH #8) + 0.0031(KWH #4). Condition 15 limits the NO_X emission from EU IDs 4 & 8 to less than 40 tpy (80,000 lb.). Doing the same type of computation as for SO_2 will yield the MWH/yr allowed to just meet the NO_X limit. The computed limitation is 12,080 MWH/yr with the SCR (Table H). A fuel sulfur content of about 0.32 weight percent would just match the NO_X MWH/yr limit. So, if Permittee wishes to produce 12,080 MWH/yr from EU ID 8 he would have to use fuel containing no more than 0.32% sulfur. (The limitation for NO_X from Table H of 32 ton per year has been rescinded. The limitation is 40 tpy of NO_X for EU IDs 4 & 8.)

If the diesel were operated without the SCR, its emission factor would be ten times that in Table I, so its MWH/yr limit would be 1,208. Since the emission factors are listed to no more than two significant figures, the limits will be rounded down to two significant figures, i.e., 12,000 and 1,200 MWH/yr. The 1,200 and 12,000 MWH/yr limits are incorporated into condition 15. Permittee always has the option of obtaining more precise emission factors.

With the 12,080 MWH/yr limit, the increase in CO will be less than 25 tpy. Hence, the DEG is not a modification in the CO non-attainment area in accordance with 18 AAC 50.300(h)(5), (6), (7), or (8).

The emission factors were not available for PM-10, but the DEG will be equipped with a baghouse, so its emission factor should be well less than 0.001 lb./KWH. So, the DEG limit would be greater than 20,000 MWH/yr.

All the above emission limits are repeated in the last row of Table H.

Emissions Trading--

UAF could consider trading the DEG emissions for coal boiler emissions. Note that in Table I all emission factors for the DEG are lower than for coal. If emissions were traded against the coal-fired boiler, there would be no operating limit for the DEG when the boiler's load is reduced by the same kWh. However, this trading would fix the coal fired boiler's future allowable emissions to those actual emissions just before the DEG was installed. This would not allow for the slow creep of emissions from the coal-fired boilers as campus grows.

Debottlenecking--

Another PSD avoidance question is what to do about the slow creep of emissions due to adding new buildings to campus. The largest building that was added to the UAF campus since 1980 is the Natural Science building. It was added in the 1990s. Using the Highest electrical load recorded and the worst-case emissions factors (i.e., maximum district heat load per KWH), UAF computed the increase in emissions as 34 Tons NO_X and 19 tons SO_2. This by itself will not trigger PSD. Also, per EPA's September 18, 1989, memorandum on clarification of policy regarding the "Net Emissions Increase", current policy is to not to aggregate less than significant increases at a major source. So load increases have not triggered PSD. There was no modification to the power plant to allow it to handle this creeping load.

Monitoring--

The PSD avoidance schemes discussed above come very near to the 40 ton per year limit for SO_2 and for NO_X which would require a PSD permit. Many of the computations are based upon AP-42 emission factors, which are not accurate for any one specific source. So, fuel testing for sulfur will be required for the DEG if Permittee elects to exceed the MWH/yr limit in Table I that was based upon 0.5 weight percent sulfur fuels.

The #4 oil fired boiler's fuel consumption will have to be routinely monitored.

Source testing for NO_X is required when the emissions reach 90% (36 tpy) of the permit limit.

General Conformity--

Legal Basis: [18 AAC 50.725, 1/4/95]

Factual Basis: The General Conformity provisions of 18 AAC 50.725 do not apply because 40 C.F.R. §51.853(b) limits applicability to increases exceeding 100 tpy CO. As discussed above, the diesel's PSD avoidance limits prohibit it from reaching 25 tpy of CO. The Department of Energy has completed an Environmental Assessment (DOE/EA 1183) for the diesel-electric generator.

Conditions 18, 19, and 20, Source testing if EU IDs 4 and/or 8 are operated on a coal water slurry.

Legal Basis: [Construction Permit 9631-AA001]

Factual Basis: These conditions are reinstated in the Title V permit, they should not have been removed from the previous operating permit AQ0316TVP01, Revision 3.

Conditions 21 - 24, Insignificant Sources

Applicability: These general emission standards apply to all industrial processes fuel-burning equipment, and incinerators regardless of size.

Factual basis: The conditions re-iterate the general standards and require compliance for insignificant sources. The Permittee may not cause or allow their equipment to violate these standards. Insignificant sources are not listed in the permit unless specific monitoring, recordkeeping and reporting are necessary to ensure compliance.

The Department finds that the insignificant sources at this stationary source do not need specific monitoring, recordkeeping and reporting to ensure compliance under these conditions.

Condition 21.1 requires certification that the sources did not exceed State emission standards during the previous year and did not emit any prohibited air pollution.

State air quality regulations adopted effective May 3, 2002 allow for an average six-minute opacity observation. The existing regulation, limiting opacity to no more than 20% for more than 3 minutes in any one hour, is included because EPA Region X has

not formally approved the changed opacity regulation as part of Alaska's State Implementation Plan (SIP).

Conditions 25– 26, Limits on Incinerator

Legal Basis: [40 C.F.R. 60.50 Subpart E, 7/1/03]
[40 C.F.R. 60.30e, Subpart Ce, & 40 C.F.R. 62, 7/1/03]
[40 C.F.R. 60.2880, Subpart EEEE & 40 C.F.R. 60.2980FFFF 12/16/05]

Factual Basis: 40 C.F.R. 62, Subpart HHH regulates incinerators that incinerate hospital, medical, and infectious waste. 40 C.F.R. 62.14400(b) provides an exemption to a facility that operate a co-fired combustor and limits the amount of hospital/medical/ infectious waste to 10 percent or less of the total volume of waste incinerated. UAF requested these limits and prohibitions in a letter dated January 16, 2002 and is allowed to avoid having to comply with 40 C.F.R. 62, Subpart HHH.

UAF notified the administrator in a letter dated February 26, 2007 of their intent to claim the exemption for Pathological waste incineration units. The Department agrees with UAF's assertion of the exemption. Monitoring, recordkeeping, and reporting requirements were added to the permit as a tool for UAF to show compliance with the exemption requirement.

Conditions 25.4 – 25.8 are monitoring, record keeping, and reporting for condition 25. Condition 26 does not include monitoring, record keeping, and reporting because this condition is a prohibition.

Conditions 27 - 29, (Section 4), Standard Operating Permit Conditions for Coal-Fired Boilers

Applicability: These conditions apply to the coal-fired boilers because they: 1) are fuel burning equipment burning coal that began operation before August 17, 1971; 2) have installed continuous opacity monitoring instrumentation; and 3) have demonstrated that the particulate matter emissions from the boilers will not cause or contribute to a violation of the ambient air quality standards for PM-10 in 18 AAC 50.010, or will not cause the maximum allowable increases for PM-10 in 18 AAC 50.020 to be exceeded.

Factual Basis: Conditions 27-29 contain emissions standards and monitoring, recordkeeping, and reporting requirements that apply to the exhaust gases of the boilers, EU IDs 1-3.

The boilers are fuel-burning equipment as that term is defined in 18 AAC 50.990. As such, the exhaust gases of the boilers are subject to opacity, particulate matter, and sulfur compound emission standards listed in 18 AAC 50.055.

In addition, Alaska's approved State Implementation Plan (SIP) contains opacity, particulate matter, and sulfur compound standards listed in 40 C.F.R. 52.75. These standards are incorporated by reference into Alaska law through 18 AAC 50.040(e).

The particulate-matter and sulfur-compound standards listed in 18 AAC 50.055 and 40 C.F.R. 52.75 are the same. See Volume 63, No. 223, pages 63,983-63,986, of the

Federal Register. The visible emission standards listed in 18 AAC 50.055 and 40 C.F.R. 52.75 are slightly different; therefore, both are included in the permit.

Condition 29, Sulfur Compound Emissions

Applicability: This Standard Operating Permit Condition is required for coal-fired boilers [18 AAC 50.346(c)]. EU IDs 1 through 2 are coal-fired boilers and are subject to these standard conditions.

Factual basis: Condition 27 requires the Permittee to comply with the federal and the State visible emission standards applicable to fuel-burning equipment. The Permittee has met the requirements to be able to reduce visibility through the exhaust effluent of EU IDs 1 through 3 by 20 percent for an additional three minutes in any one hour because they are coal burning boilers that began operation before August 17, 1971. Conditions 28 and 29 require the Permittee to comply with the federal and State limits on emissions of particulate matter and sulfur dioxide. The Permittee shall not cause or allow EU IDs 1 through 2 to violate these standards.

Condition 30 (Section 5), Performance Audits for COMS

Applicability: This condition applies per 50.030(9), 10/4/04.

Factual basis: This condition describes the elements to be included in performance audits for Continuous Opacity Monitoring Systems (COMS).

Conditions 31 – 39, NSPS Subpart A Requirements

Applicability: The Department has incorporated by reference the NSPS effective July 1, 2001, for specific industrial activities, as listed in 18 AAC 50.040[20].

Most (with the exception of some storage tanks) sources subject to an NSPS are subject to Subpart A. At this stationary source, EU ID 4 is subject to NSPS Subpart Db and therefore subject to Subpart A.

Condition 31.1 through 31.3 - The Permittee has already complied with the notification requirements in 40 C.F.R. 60.7 (a)(1) - (4) for EU ID 4. However, the Permittee is still subject to these requirements in the event of a new NSPS source or reconstruction of one of these sources.

Condition 31.4 through 31.6 - The requirements to notify the EPA and the Department of the date of a continuous monitoring system performance demonstration, no less than 30 days before demonstration commences (40 C.F.R. 60.7(a)(5) – (7)) are applicable to EU ID 4 **only if a CMS is** installed **as an NSPS requirement**.

Condition 31.7 - The requirements to notify the EPA and the Department of any proposed replacement of an affected stationary source (40 C.F.R. 60.15) applies to EU ID 4 in the event of a proposed replacement of these sources.

Condition 32 - Start-up, shutdown, or malfunction record maintenance requirements in 40 C.F.R. 60.7(b) are applicable to all NSPS sources subject to Subpart A.

[20] EPA has not delegated to the Department the authority to administer the NSPS program as of the issue date of this permit.

Conditions 33 and 34 - NSPS excess emission reporting requirements and summary report form in 40 C.F.R. 60.7(c) & (d) are applicable to EU ID 4 because it is subject to 40 C.F.R. 60 Subpart Db. The Department has included in Attachment A of the statement of basis a copy of the federal EEMSP summary report form for use by the stationary source.

Recordkeeping requirements in 40 C.F.R. 60.7(f) are applicable to all NSPS sources. (Satisfied by condition 71)

Condition 35 - The Permittee has already complied with the initial performance test requirements in 40 C.F.R. 60.8 for EU ID 4. However, additional performance test requirements may by applicable to the boiler if the Permittee is required to conduct source tests under the periodic monitoring requirements in condition 42.1.

Condition 36 - Good air pollution control practices in 40 C.F.R. 60.11 are applicable to all NSPS sources subject to Subpart A (EU ID 4).

Condition 37 - states that any credible evidence may be used to demonstrate compliance or establishing violations of relevant NSPS standards for EU ID 4.

Condition 38 - Concealment of emissions prohibitions in 40 C.F. R. 60.12 are applicable to EU ID 4.

Condition 39 - Monitoring requirements in 40 C. F. R. 60.13 are applicable to EU ID 4 because a CMS is used to determine compliance with Subpart Db emission standards.

Factual Basis: Subpart A contains the general requirements applicable to all affected facilities (sources) subject to NSPS. In general the intent of NSPS is to provide technology-based emission control standards.

Condition 40- 43, NSPS Subpart Db Requirements

Applicability: NSPS Subpart Db applies to steam generating units that commenced construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 MW (100 million Btu/hour).

EU ID 4, when burning distillate fuel gas or fuel oil, is subject to the standard for SO_2 in 40 C.F.R. 60.42b(d). EU ID 4 is subject to the PM standard in 40 C.F.R. 60.43b(f) & (g). In accordance with 40 C.F.R. 60.42b(j)(1), compliance with the emission limit or oil sulfur content limit for EU ID 4 may be demonstrated by certification from the fuel supplier. EU ID 4 when burning distillate fuel gas or fuel oil, is subject to the standard for NO_X in 40 C.F.R. 60.44b.

Factual Basis: The conditions 42 and 43 require the Permittee to comply with the Subpart Db sulfur and PM standards. The Permittee may not cause or allow EU ID 4 to violate these standards. The Permittee has two options for complying with SO_2 emissions: one is to comply with a sulfur emission limit and the other is to comply with a fuel sulfur limit.

Monitoring – The condition describes monitoring required in the event that the owner seeks to demonstrate compliance with the SO_2 standard based on fuel supplier certification under 40 C.F.R. 60.46b(j).

Condition 43.1 requires the Permitted to install, calibrate, maintain, and operate COMS for measuring the opacity of emissions discharged to the atmosphere and record the output of the system. This condition allows UAF to forgo the COMS requirement provided they combust only fuel containing ≥ 0.3 percent sulfur by weight or liquid or gaseous fuels with a potential sulfur dioxide emission rates of 140 ng/J (0.32 lb/MMBtu) heat input or less, provided they maintain fuel supplier certifications of the sulfur content combusted.

Factual Basis: 40 CFR 60.48b(a) "The owner or operator of an affected facility subject to the opacity standard under § 60.43b shall install, calibrate, maintain, and operate a continuous monitoring system for measuring the opacity of emissions discharged to the atmosphere and record the output of the system."

Factual Basis: 40 CFR 60.48b(a)(j) Units that burn only oil that contains no more than 0.3 weight percent sulfur or liquid or gaseous fuels with potential sulfur dioxide emission rates of 140 ng/J (0.32 lb/MMBtu) heat input or less are not required to conduct PM emissions monitoring if they maintain fuel supplier certifications of the sulfur content of the fuels burned.

Monitoring & Recordkeeping – The condition describes the monitoring and recordkeeping requirements for PM and NO_X.

Conditions 44 - 46, Standard Terms and Conditions

Applicability: Apply because these are standard conditions to be included in all permits.

Factual Basis: These are standard conditions required under 18 AAC 5.0345(a) and (e)-(g) for all operating permits.

Conditions 47 - 48, Emission Fees

Applicability: The regulations require all permits to include due dates for the payment of fees and any method the Permittee may use to re-compute assessable emissions.

Factual Basis: These standard conditions require the Permittee to pay fees in accordance with the Department's billing regulations. The billing regulations set the due dates for payment of fees based on the billing date.

The default assessable emissions are emissions of each air pollutant authorized by the permit (AS 46.14.250(h)(1)(A)). Air pollutant means any regulated air pollutant and any hazardous air pollutant. Therefore, assessable emissions under AS 46.14.250(h)(1)(A) means the **potential** to emit any air pollutant identified in the permit, including those not specifically limited by the permit. For example, hydrogen chloride (HCl) emissions from an incinerator are assessable emissions because they are a hazardous air pollutant, even if there is currently no emission limit on HCl for that class of incinerator.

The conditions also describe how the Permittee may calculate **actual** annual assessable emissions based on previous actual annual emissions. According to AS 46.14.250(h)(1)(B), assessable emissions are based on each air pollutant. Therefore, fees based on actual emissions must also be paid on any pollutant emitted whether or not the permit contains any limitation of that pollutant.

These standard conditions specify that, unless otherwise approved by the Department, calculations of assessable emission based on actual emissions use the most recent previous calendar year's emissions. Since each current year's assessable emission are based on the previous year, the Department will not give refunds or make additional billings at the end of the current year if the estimated emissions and current year actual emissions do not match. The Permittee will normally pay for actual emissions - just with a one-year time lag.

Projected actual emissions may differ from the previous year's actual emissions if there is a change at the stationary source, such as changes in equipment or an emission rate from existing equipment.

If the Permittee does not choose to annually calculate assessable emissions, emissions fees will be based on "potential to emit" (PTE).

The PTE set forth in the condition is based on liquid fuel with a sulfur content of 0.5 percent by weight or fuel gas with a sulfur content of 60 ppm H_2S by volume. If the actual sulfur content of the fuel is greater than these assumptions, the assessable emissions calculations provided by the Permittee should reflect the actual sulfur content. The change in these values may result in SO_2 emissions that could trigger PSD.

Condition 49, Good Air Pollution Control Practice

Applicability: Applies to all sources, **except** NSPS regulated sources, i.e., except EU ID 4.

Factual basis: The condition requires the Permittee to comply with good air pollution control practices for all sources.

Maintaining and operating equipment in good working order is fundamental to preventing unnecessary or excess emissions. Standard conditions for monitoring compliance with emission standards are based on the assumption that good maintenance is performed. Without appropriate maintenance, equipment can deteriorate more quickly than with appropriate maintenance. If appropriate maintenance is not applied to the equipment, the Department may have to apply more frequent periodic monitoring requirements (unless the monitoring is already continuous) to ensure that the monitoring results are representative of actual emissions.

The Permittee is required to keep maintenance records to show that proper maintenance procedures were followed, and to make the records available to the Department. The Department may use these records as a trigger for requesting source testing if the records show that maintenance has been deferred.

Condition 50, Dilution

Applicability: This State regulation applies to the Permittee because the Permittee is subject to emission standards in 18 AAC 50.

Factual Basis: The condition prohibits the Permittee from diluting emissions as a means of compliance with any standard in 18 AAC 50.

Condition 51, Reasonable Precautions to Prevent Fugitive Dust

Applicability: Bulk material handling requirements apply to the Permittee because the Permittee will engage in bulk material handling, transporting, or storing; or will engage in industrial activity at the facility.

This condition applies to operating permits for facilities that do not have an approved dust control plan, and contain one of the following sources: coal-fired boilers; coal handling facilities; construction of gravel pads or roads that are part of a permitted stationary source or other construction that has the potential to generate fugitive dust that reaches ambient air; commercial/industrial/municipal solid waste, air curtain, and medical waste incinerators; sewage sludge incinerators not using wet methods to handle that ash; mines; urea manufacturing; soil remediation units; or dirt roads under the control of the operator with frequent vehicle traffic.

Factual Basis: The underlying regulation, 18 AAC 50.045(d), requires the Permittee to take reasonable action to prevent particulate matter (PM) from being emitted into the ambient air.

Not all facilities have the potential to generate fugitive dust during the life of the permit. The Department will determine whether precautions are reasonable based on a variety of factors, including the distance to the stationary source boundaries, nature and content of the dust, proximity to neighbors, and the nature of the activity. This condition applies to the types of sources or activities that are likely to generate fugitive dust as identified above. It allows the precautions that are identified under the permit to be appropriate and specific to the activities conducted by the Permittee.

Condition 52, Stack Injection

Applicability: Stack injection requirements apply to the stationary source because the stationary source contains a stack or source constructed or modified after November 1, 1982.

Factual Basis: The condition prohibits the Permittee from releasing materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack (i.e. disposing of material by injecting it into a stack). No specific monitoring for this condition is practical. Compliance is ensured by inspections, because the source or stack would need to be modified to accommodate stack injection.

Condition 53, Air Pollution Prohibited

Applicability: Air Pollution Prohibited requirements apply to the stationary source because the stationary source will have emissions.

Factual Basis: The condition prohibits the Permittee from causing any emission which is injurious to human health or welfare, animal or plant life, or property, or

which would unreasonably interfere with the enjoyment of life or property. While the other permit conditions and emissions limitation should ensure compliance with this condition, unforeseen emission impacts can cause violations of this standard. These violations would go undetected except for complaints from affected persons. Therefore, to monitor compliance, the Permittee must monitor and respond to complaints.

The Permittee is required to report any complaints and injurious emissions. The Permittee must keep records of the date, time, and nature of all complaints received and summary of the investigation and corrective actions undertaken for these complaints and to submit copies of these records upon request of the Department.

The Department will determine whether the necessary actions were taken. No corrective actions are necessary if the complaint is frivolous or there is not a violation of 18 AAC 50.110, however, this condition is intended to prevent the Permittee from prejudging that complaints are invalid.

Condition 54, Technology-Based Emission Standard

Applicability: Technology Based Emission Standard requirements apply to the stationary source because the stationary source contains equipment subject to a technology-based emission standard, such as BACT, MACT, LAER, NSPS or other "technologically feasible" determinations.

Factual Basis: The Permittee is required to take reasonable steps to minimize emissions if certain activity causes an exceedance of any technology-based emission standard in this permit. The conditions of this permit list applicable technology-based emission standards and require excess emission reporting for each standard in accordance with condition 75. Excess emission reporting under condition 75 requires information on the steps taken to minimize emissions. Monitoring of compliance for this condition consists of the report required under condition 75.

Condition 55, Asbestos NESHAP

Applicability: The asbestos demolition and renovation requirements apply if the Permittee engages in asbestos demolition or renovation.

Factual Basis: The condition requires the Permittee to comply with asbestos demolition or renovation requirements in 40 C.F.R. 61, Subpart M. Because these regulations include adequate monitoring and reporting requirements and because the Permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient to ensure compliance with these federal regulations.

Condition 56, Refrigerant Recycling and Disposal

Applicability: Applies if the Permittee engages in the recycling or disposal of certain refrigerants.

Factual Basis: The condition requires the Permittee to comply with the standards for recycling and emission reduction of refrigerants set forth in 40 C.F.R. 82, Subpart F that apply if the Permittee uses certain refrigerants. Because these regulations include

adequate monitoring and reporting requirements, simply citing the regulatory requirements is sufficient.

Condition 57, NESHAPS Applicability Determinations

Applicability: The Permittee has the responsibility to determine if specific federal regulations apply to its facilities.

Factual basis: The Permittee has conducted an analysis of the stationary source and determined that it is not a major HAPs stationary source based on emissions. This condition requires the Permittee to keep and make available to the Department copies of the major stationary source determination.

Conditions 58 - 59, Halon Prohibitions

Applicability: These prohibitions apply to all facilities that use halon for fire extinguishing and explosion inertion. The **Fairbanks Campus Power Plant** uses halon and is therefore subject to the federal regulations contained in 40 C.F.R. 82.

Factual basis: These conditions incorporate applicable 40 C.F.R. 82 requirements. The Permittee may not cause or allow violations of these prohibitions.

Condition 60, Open Burning

Applicability: The open burning State regulation in 18 AAC 50.065 applies to the Permittee if the Permittee conducts open burning at the stationary source.

Factual Basis: The condition requires the Permittee to comply with the regulatory requirements when conducting open burning at the stationary source.

No specific monitoring is required for this condition. Condition 60.1f requires the Permittee to keep "sufficient records" to demonstrate compliance with the standards for conducting open burning, but does not specify what these records should contain.

More extensive monitoring and recordkeeping is not warranted because the Permittee does not conduct open burning as a routine part of their business. Also, most of the requirements are prohibitions, which are not easily monitored. Additional monitoring is achieved through condition 53, which requires a record of complaints.

Condition 61, Requested Source Tests

Applicability: Applies because this is a standard condition to be included in all permits.

Factual Basis: The Permittee is required to conduct source tests as requested by the Department. Monitoring consists of conducting the requested source test.

Conditions 62 - 64, Operating Conditions, Reference Test Methods, Excess Air Requirements

Applicability: Apply because the Permittee is required to conduct source tests by this permit.

Factual Basis: The Permittee is required to conduct source test as set out in conditions 62 through 64. These conditions supplement the specific monitoring

requirements stated elsewhere in this permit. Compliance monitoring with conditions 62 through 64 consist of the test reports required by condition 69.

Condition 65, Test Exemption

Applicability: Applies when the source exhaust is observed for visible emissions.

Factual Basis: As provided in 18 AAC 50.345(a), 5/03/02, the requirements for test plans, notifications and reports do not apply to visible emissions observations by smoke readers, except in connection with required particulate matter testing.

Conditions 66 - 69, Test Deadline Extension, Test Plans, Notifications and Reports

Applicability: Apply because the Permittee is required to conduct source test by this permit.

Factual Basis: Standard conditions 18 AAC 50.345(l) - (o) are incorporated through these conditions. These standard conditions supplement specific monitoring requirements stated elsewhere in this permit. The source test itself monitors compliance with this condition.

Condition 70, Particulate Matter (PM) Calculations

Applicability: Applies when the Permittee tests for compliance with the PM standard.

Factual Basis: The condition incorporates a regulatory requirement for PM source tests. The Permittee must use the equation given in this condition to calculate the PM emission concentration from the source test results. This condition supplements specific monitoring requirements stated elsewhere in this permit.

Condition 71, Recordkeeping Requirements

Applicability: Applies because the Permittee is required by the permit to keep records.

Factual Basis: The condition restates the regulatory requirements for recordkeeping and supplements the recordkeeping defined for specific conditions in the permit. The records being kept provide an evidence of compliance with this requirement.

Condition 72, Certification

Applicability: This is a standard condition to be included in all permits. Applies because every permit requires the Permittee to submit reports.

Factual Basis: This condition requires the Permittee to certify all reports submitted to the Department. To ease the certification burden on the Permittee, the condition allows the excess emission reports to be **certified** with the stationary source report, even though it must still be **submitted** more frequently than the stationary source operating report. This condition supplements the reporting requirements of this permit.

Condition 73, Submittals

Applicability: Applies because the Permittee is required to send reports to the Department.

Factual Basis: This condition requires the Permittee to send submittals to the address specified in this condition. Receipt of the submittal at the correct Department office is sufficient monitoring for this condition. This condition supplements the reporting requirements of this permit.

Condition 74, Information Requests

Applicability: Applies to all Permittees, and incorporates a standard condition.

Factual Basis: This condition incorporates a standard condition in regulation, which requires the Permittee to submit information requested by the Department. Monitoring consists of receipt of the requested information.

Condition 75, Excess Emission and Permit Deviation Reports

Applicability: Applies when the emissions or operations deviate from the requirements of the permit.

Factual Basis: This condition satisfies two State regulations related to excess emissions - the technology-based emission standard regulation and the excess emission regulation. Although there are some differences between the regulations, the condition satisfies the requirements of each regulation.

In accordance with 40 C.F.R. 71.6(a)(iii)(C), a deviation is not always a violation. For a situation lasting more than 24 hours which constitute a deviation, each 24 hour period is considered a separate deviation. "Deviation" as defined in 40 C.F.R. 71 means both "excess emission" and "permit deviation" as used in this permit, which includes:

1. a situation where emissions exceed an emission limitation or standard;
2. a situation where process or emissions control device parameter values indicate that an emission limitation or standard has not been met;
3. a situation in which observations or data collected demonstrate noncompliance with an emission limitation or standard or any work practice or operating condition required by the permit (including indicators of compliance revealed through parameter monitoring);
4. a situation in which any testing, monitoring, recordkeeping or reporting required by this permit is not performed or not performed as required;
5. a situation in which an exceedance or an excursion, as defined in 40 C.F.R. Part 64, occurs; and,
6. failure to comply with a permit term that requires submittal of a report.

In accordance with 18 AAC 50.990(35) "excess emissions" means emissions of an air pollutant in excess of any applicable emission standard or limitation which is item 1 of the above definitions from 40 C.F.R. 71. These definitions shall be considered in determining an "excess emissions" or "permit deviation" when reporting an occurrence using the ADEC notification form.

The reports themselves and the other monitoring records required under this permit provide monitoring of whether the Permittee has complied with the condition. Please

note that there may be additional federally required excess emission reporting requirements.

Condition 76, Operating Reports

Applicability: Applies to all permits.

Factual Basis: The condition restates the requirements for reports listed in regulation. The condition supplements the specific reporting requirements elsewhere in the permit. The reports themselves provide monitoring for compliance with this condition.

Condition 77, Annual Compliance Certification

Applicability: Applies to all Permittees.

Factual Basis: This condition specifies the periodic compliance certification requirements, and specifies a due date for the annual compliance certification. The reports themselves provide monitoring for compliance with this condition.

Conditions 78 - 83, Permit changes and revisions requirements

Applicability: Apply because these are standard conditions to be included in all operating permits.

Factual Basis: These are standard conditions required for all operating permits when revisions, operational changes or construction modifications occur in the stationary source.

Condition 84, Permit Renewal

Applicability: Applies if the Permittee intends to renew the permit.

Factual Basis: In accordance with AS 46.14.230(a), this operating permit is issued for a fixed term of five years after the date of issuance, unless a shorter term is requested by the permit applicant. The Permittee is required to submit an application for permit renewal by the specific dates applicable to **Fairbanks Campus Power Plant** as listed in this condition. As stated in 40 C.F.R. 71.5(a)(1)(iii), submission for a permit renewal application is considered timely if it is submitted at least six months but no more than eighteen months prior to expiration of the operating permit. According to 40 C.F.R. 71.5(a)(2), a complete renewal application is one that provides all information required pursuant to 40 C.F.R. 71.5(c) and must remit payment of fees owed under the fee schedule established pursuant to 18 AAC 50.400. 40 C.F.R. 71.7(b) states that if a source submits a timely and complete application for permit issuance (including renewal), the source's failure to have a permit is not a violation until the permitting authority takes final action on the permit application. Therefore, for as long as an application has been submitted within the timeframe allowed under 40 C.F.R. 71.5(a)(1)(iii), and is complete before the expiration date of the existing permit, then the expiration of the existing permit is extended and the Permittee has the right to operate under that permit until the effective date of the new permit. However, this protection shall cease to apply if, subsequent to the completeness determination, the applicant fails to submit by the deadline specified in writing by the Department any additional information needed to process the

application. Monitoring, recordkeeping, and reporting for this condition consist of the application submittal.

Conditions 85 - 90, General Compliance Requirements and Schedule

Applicability: Apply because these are standard conditions to be included in all permits.

Factual Basis: These are standard conditions for compliance required for all operating permits.

Condition 91, Compliance Schedule for Coal Fired Boilers

Applicability: Applies because the Permittee will not be in compliance with the applicable requirements under 40 CFR 64 for EU ID 1 & 2 at the time of permit issuance. In accordance with the schedule of compliance requirements under 40 CFR 71.6(c)(3) Condition 91 establishes remedial measures, including enforceable sequence of actions with milestones, leading to the compliance with 40 C.F.R. 64 "Compliance Assurance Monitoring" for EUs 1 & 2.

Factual Basis: The Department found that EUs 1 & 2 meet all three applicability criteria listed under the General Applicability section in 40 CFR 64.2(a):

§64.2(a)(1): *"The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under paragraph (b)(1) of this section;"*

In condition 30, the Permittee is subject to a particulate matter emission limitation to comply with 18 AAC 50.055(b)(2) grain loading standard for steam generating plants.

§64.2(a)(2): *"The unit uses a control device to achieve compliance with any such emission limitation or standard;"*

The Permittee uses a baghouse to meet the grain loading emission limits for particulate matter from coal fired boilers EUs 1 & 2.

§64.2(a)(3): *"The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. For purposes of this paragraph, "potential pre-control device emissions" shall have the same meaning as "potential to emit", as defined in Sec. 64.1, except that emission reductions achieved by the applicable control device shall not be taken into account."*

The Permittee submitted source test data information for a source test conducted on coal-fired boiler # 2, in October 1982 on particulate matter emissions. The source test was conducted prior to the installation of the baghouse. A multiple cyclone that controlled particulate matter emissions was in place during the October 1982 source test.

The Permittee indicated that based on the October 1982 source test, the PTE (pre-controlled) of each boiler is 99.4 tons per year. This value was

calculated using the average grain loading of 0.20 grain/dscf, an average flow rate of 817,082 dscf/hr from the valid test runs, and 8,520 hours for an operating year.

ADEC disagreed with the Permittee's conclusions regarding the pre-controlled PTE and found that the PTE of pre-controlled emissions of particulate matter from the boilers is over 100 tons per year due to the following reasons:

a) a multiple cyclone was installed on boiler #2 at the time of the source test. Although the cyclone serves a dual purpose (i.e. increase combustion efficiency by re-injecting collected fly ash into the combustion chamber, and controlling particulate matter emissions), for purposes of evaluating the potential pre-control device emissions criteria under §64.2(a)(3), particulate matter emissions controlled by the cyclone must be added to the 99.4 tons per year measured during the source test. This rationale was confirmed by US EPA staff during a private communication on May 18 & 22, 2007.

b) The October 1982 source test report indicated that the boiler steam production during the tests ranged from 46,000 to 48,000 lbs/hr. Boilers #1 & 2 are rated with a design capacity of 50,000 lbs/hr of steam. Using simple regression, an additional 2,000 lbs/hr to the 99.4 tons initially calculated by the Permittee would have resulted in approximately 103 tons per year of particulate matter.

The Department also evaluated alternative the pre-controlled particulate matter emission calculations performed by the Permittee based on a source test conducted on boilers, EU ID 1 & 2 on October 4 and 5, 1982. The source test report submitted to ADEC reported a PTE of 26 tpy for PM for each one of the boilers. This PTE was calculated from the average emission factor of 0.3990 lbs/hr from the three source test runs. The Permittee back-calculated pre-controlled particulate matter emissions using the manufacturer's control efficiency rating for the baghouse of 93.3% assuming full load operation during 365 days/year.

The Department found the control efficiency rating of 93.3% used by the Permittee too conservative to back-calculate the pre-controlled particulate matter emissions. AP-42 emission factors reflect that a baghouse can achieve an efficiency of 99.8 %. Additionally, the Institute of Clean Air Companies (ICAC) note that baghouses are often capable of 99.9% removal efficiencies. The ICAC also notes that "baghouse removal efficiency is relatively level across the particle size range."[21] In any case these calculations do not take into account particulate matter collected in the multiple cyclone.

40 C.F.R. 64 and 40 C.F.R. 71.6(c)(3) & (4) and 71.5(c)(8) describe the elements required to develop a compliance plan including remedial measures and milestones leading to compliance.

[21] http://www.icac.com\i4a\pages\index.cfm?pageid=3398

Condition 92, Compliance Schedule for Selective Catalytic Reduction (SCR) unit attached to emission unit ID 8

Applicability: Applies because the Permittee will not be in compliance with all applicable requirements under C.F.R. 64 "Compliance Assurance Monitoring" for the SCR at the time of permit issuance.

Factual Basis:

UAF applied for an owner-requested operating limit of 10% utilization to avoid NSPS NO_X monitoring with the oil-fire boiler EU 4. This utilization limit was well below the 40 tpy limit which would trigger PSD review.

When UAF added the diesel engine generator (EU 8), the 40 tpy NO_X limit was retained to again avoid PSD review.

Currently, the Permittee does not monitor the efficiency of the NO_X removal of the SCR.

The Department found that EU 8 meets all three applicability criteria listed under the General Applicability section in 40 CFR 64.2(a):

§64.2(a)(1): *"The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof), other than an emission limitation or standard that is exempt under paragraph (b)(1) of this section;"*

Under condition 16, the Permittee shall limit the combined NOx emissions from EU IDs 4 and 8 to less than 40 tons per year.

The Permittee uses Equation 2 and Equation 3 to determine NOx emissions from EU ID 8.

§64.2(a)(2): *"The unit uses a control device to achieve compliance with any such emission limitation or standard;"*

UAF has a control device (the SCR) to control NOX emissions. When operating with the SCR, UAF is using a control device to meet its emission limitation.

The Permittee has two operating scenarios for the DEG. The Permittee may operate the DEG with or without the SCR. When operating the unit with the SCR the Permittee achieves NOX reduction of by a factor of approximately 10. Meaning that without NOX reduction, the unit produces 53 lb per MWH, but with the SCR reducing the NOX emissions, the emission rate is 5.3 lb per MWH. The Permittee has a self requested limit of 40 tpy of NOX for emission units ID 4 & 8.

§64.2(a)(3): *"The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source. For purposes of this paragraph, "potential pre-control device emissions" shall have the same meaning as "potential to emit",*

as defined in Sec. 64.1, except that emission reductions achieved by the applicable control device shall not be taken into account."

Emission unit ID 8 has a pre-controlled emission greater than 100 tons per year.

§64.2(b): Exemptions. The exemption under §64.2(b)(1)(v) was closely studied at the request of the Permittee:

The Department found that 40 C.F.R. 64.2(b)(1)(v), which allows for an exemption from §64 if an emission cap meets the requirements of 40 C.F.R. 70.4 (b)(12) or 71.6(a)(13)(iii), does not apply.

The exemption under § 71.6(a)(13)(iii) or § 70.4 (b)(12) allows for the trading of emission increases and decreases in the permitted facility solely for the purpose of complying with emission caps that are independent of otherwise applicable requirements. The 40 tpy of NOx limit constitutes an applicable requirement established in a Title I permit to avoid PSD review. In other words, the Department found that the 40 tpy NOx limit does not correspond to trading of emissions increases and decreases solely for the purpose of complying with a federally-enforceable emissions cap.

Condition 92 requires the Permittee to implement measures achieve compliance under 40 CFR Part 64.

40 C.F.R. 64 and 40 C.F.R. 71.6(c)(3) & (4) and 71.5(c)(8) describe the elements required to develop a compliance plan, including remedial measures, and milestones leading to compliance.

Conditions 93 - 94, Permit Shield

Applicability: Apply because the Permittee has requested a shield for the applicable requirements listed under this condition.

Factual Basis: Table C of Operating Permit No. AQ0316TVP02 shows the permit shields that the Department granted to the Permittee. The permit conditions set forth the requirements that the Department determined were not applicable to the stationary source. The Department based the determinations on the permit application, past operating permit, construction permits and inspection reports.

Attachment A

Pollutant (Circle One—SO_2/ NO_X /fuel sulfur)

Reporting period dates:

From: _____ To: _____

Company: _____

Emission Limitation: _____

Address: _____

Monitor Manufacturer and Model No: _____

Date of Latest CMS (CEMS and PEMS) Certification or Audit: _____

Process Unit(s) Description: _____

Total source operating time in reporting period:[1] _____

Figure 1 -- Summary Report -- Excess Emission and Monitoring System Performance

Emission data summary[1]	**CMS (CEMS and PEMS) performance summary**[1]
1. Duration of excess emissions in reporting period due to:	1. CMS (CEMS and PEMS) downtime in reporting period reporting period due to:
a. Startup/shutdown _____	a. Monitor equipment malfunctions _____
b. Control equipment problems _____	b. Non-Monitor equipment malfunctions _____
c. Process problems _____	c. Quality assurance calibration _____
d. Other known causes _____	d. Other known causes _____
e. Unknown causes _____	e. Unknown causes _____
2. Total duration of excess emission _____	2. Total CMS (CEMS and PEMS) Downtime _____
3. Total duration of excess emissions X (100)/[Total source operating time] _____ %[2]	3. [Total CMS (CEMS and PEMS) Downtime] X (100)/[Total source operating time] _____ %[2]

[1] For opacity, record all times in minutes. For gases, record all times in hours.

[2] For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS (CEMS or PEMS) downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in this condition shall be submitted.

On a separate page, describe any changes since last quarter in CMS, process or controls.

I certify that the information contained in this report is true, accurate, and complete.

_____
Name

_____
Signature